

ARMS TRADE AND NONPROLIFERATION

HEARINGS

BEFORE THE

SUBCOMMITTEE ON TECHNOLOGY AND NATIONAL SECURITY

OF THE

JOINT ECONOMIC COMMITTEE CONGRESS OF THE UNITED STATES

ONE HUNDRED FIRST CONGRESS
SECOND SESSION

AND

ONE HUNDRED SECOND CONGRESS
FIRST SESSION

PART 1

SEPTEMBER 21, 1990 AND APRIL 23, 1991

Printed for the use of the Joint Economic Committee



U.S. GOVERNMENT PRINTING OFFICE

WASHINGTON: 1992

For sale by the U.S. Government Printing Office
Superintendent of Documents, Congressional Sales Office, Washington, DC 20402

ISBN 0-16-037370-0

JOINT ECONOMIC COMMITTEE

[Created pursuant to Sec. 5(a) of Public Law 304, 79th Congress]

SENATE

PAUL S. SARBANES, Maryland,
Chairman
LLOYD BENTSEN, Texas
EDWARD M. KENNEDY, Massachusetts
JEFF BINGAMAN, New Mexico
ALBERT GORE, Jr., Tennessee
RICHARD H. BRYAN, Nevada
WILLIAM V. ROTH, Jr., Delaware
STEVE SYMMS, Idaho
CONNIE MACK, Florida
ROBERT C. SMITH, New Hampshire

HOUSE OF REPRESENTATIVES

LEE H. HAMILTON, Indiana,
Vice Chairman
DAVID R. OBEY, Wisconsin
JAMES H. SCHEUER, New York
FORTNEY PETE STARK, California
STEPHEN J. SOLARZ, New York
KWEISI MFUME, Maryland
RICHARD K. ARMEY, Texas
CHALMERS P. WYLIE, Ohio
OLYMPIA J. SNOWE, Maine
HAMILTON FISH, Jr., New York

STEPHEN A. QUICK, *Executive Director*
RICHARD F KAUFMAN, *General Counsel*
EDWARD W. GILLESPIE, *Minority Staff Director*

SUBCOMMITTEE ON TECHNOLOGY AND NATIONAL SECURITY

SENATE

JEFF BINGAMAN, New Mexico
Chairman
PAUL S. SARBANES, Maryland
RICHARD BRYAN, Nevada
CONNIE MACK, Florida
ROBERT C. SMITH, New Hampshire

HOUSE OF REPRESENTATIVES

DAVID R. OBEY, Wisconsin
JAMES H. SCHEUER, New York
KWEISI MFUME, Maryland
RICHARD K. ARMEY, Texas

CONTENTS

WITNESSES, STATEMENTS, AND SUBMISSIONS FOR THE RECORD

FRIDAY, SEPTEMBER 21, 1991

	PAGE
Bingaman, Hon. Jeff, Chairman of the Subcommittee on Technology and National Security: Opening Statement	1
Milhollin, Gary, Director, Wisconsin Project on Nuclear Arms Control	2
Prepared Statement	7
LeMunyon, James A., Deputy Assistant Secretary for Export Administration, Department of Commerce	32
CONSARC Chronology	58
Sokolski, Henry, Deputy Assistant Secretary for Nonproliferation Policy, Department of Defense	34
Verviller, Elizabeth, Deputy Assistant Secretary of State, Bureau of Political and Military Affairs; accompanied by Charles Duelfer, Director, Defense Trade Control Center, Department of State	35

TUESDAY, APRIL 23, 1991

Bingaman, Hon. Jeff, Chairman of the Subcommittee on Technology and National Security, Joint Economic Committee: Opening Statement	61
Charts demonstrating different facets of the proliferation problem	64
Armey, Hon. Richard K., Member of the Joint Economic Committee: Opening Statement	71
Stark, Hon. Fortney Pete, Member of the Joint Economic Committee: Opening Statement	73
Written Opening Statement	74
Clarke, Richard A., Assistant Secretary, Politico-Military Affairs, Department of Commerce	76
Prepared Statement	80
White House Statement: Marlin Fitzwater	139
LeMunyon, James M., Deputy Assistant Secretary for Export Administration, Department of Commerce	108
Prepared Statement	112
Sokolski, Henry, Deputy Assistant Secretary for Nonproliferation Policy, Department of Commerce	116
Prepared Statement	120

	PAGE
Bryen, Stephen, President, Deltatech Corporation; Former Deputy Undersecretary for Trade Security Policy, Department of Defense	220
Prepared Statement	227
Freedenberg, Paul, International Trade Consultant, Baker and Botts: Former Undersecretary for Export Administration, Department of Commerce	232
Prepared Statement	235
Milhollin, Gary, Director, Wisconsin Project on Nuclear Arms Control . . .	247
Prepared Statement	252
Report entitled "Licensing Mass Destruction, June 1991"	263
Roth, Hon. William V., member of the Joint Economic Committee: Written Opening Statement	296
Letters of Request and Supplementary Responses	
Sokolski, Henry	197
LeMunyon, James M.	150
Attachment A, Approved License to Iraq	162
Attachment B, Approved License to Iraq	166
Attachment C, Federal Register, March 13, 1991	169
Attachment D, Special Licensing Procedures	186
Attachment E, Federal Register, August 15, 1991	188
Clarke, Richard A.	206

POINTS OF INTEREST

FRIDAY, SEPTEMBER 21, 1991

The ability of the U.S. Government to organize export controls	27
National Security Controls Should be in place from the beginning	27
Plugging the intelligence community into this process	28
Warning given on potential dangers of exports to Iraq	28
Current export control program ineffective	28
Involving the intelligence community totally in the process	30
Changes in Brazil's policies	30
Conclusion	31
Opening up exports to Europe increases risk of technology reaching Third World countries	37
The missile technology control annex list needs to be updated	38
The urgency in updating the MTCR annex list	41
The membership of the MTCR	42
The issue of rocket motor casings	43
Exporting furnaces to Iraq	46
Interagency Cooperation	47
The underlying policy issues	51
Could technology transfer be handled by a CoCom-type organization? . . .	53
Conclusion	55

TUESDAY, APRIL 23, 1991

	PAGE
The proliferation problem	76
The enhanced proliferation control initiative	77
Export controls in other countries	78
Conventional arms sales	78
Debate on export licenses to Iraq	100
Sales of technology	101
Sanctions	102
Chinese proliferation	103
Compliance with MTCR	103
No evidence of noncompliance	104
Trade with Iraq	105
Need for coordination	107
Arms Control and Disarmament Agency	107
Dual-use items	109
Export control regimes	109
Proliferation technologies	116
Dual-use technology	116
DoD policies and goals	117
Apocalyptic concerns	118
Nonapocalyptic threats	118
Condor	118
Keys to blocking development	119
Exports to Iraq	136
Referrals to Defense Department	136
Transshipment/Reexports	136
Jordan	137
Referrals to DoD	142
DoD authority	143
Enhanced proliferation control initiative	144
EPCI and CoCOM	145
CoCOM and proliferation	146
The Russians and the Chinese	147
Interagency process	148
Soviet Union and MTCR	149
China and MTCR	149
Nonconventional weapons	220
Control system is defective	220
Export control problems	221
Suggestions to improve the system	222
Proliferation: A national security problem	223
License applications should be shared	223
Coordinate with DoD	223
DoD database	223
Special calendar for risks	224
Tougher enforcement	224

	PAGE
Training program	224
High-level task force	224
Dual veto	225
Sanctions	225
International action	225
CoCOM	226
Commerce's role	232
Cooperation among agencies	232
Much more needs to be done	233
CoCOM	233
CoCOM and proliferation	234
A super international proliferation regime	234
Exports to Iraq	247
Military repair applications	248
Radar	249
Frequency synthesizers	249
SA'AD 16	250
Enhanced proliferation control initiative	250
Remove dual-like licensing from Commerce	251
More congressional oversight	251
Less secrecy	251
Should applications be public?	290
A new CoCOM?	292

ARMS TRADE AND NONPROLIFERATION

FRIDAY, SEPTEMBER 21, 1990

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON TECHNOLOGY AND NATIONAL SECURITY
OF THE JOINT ECONOMIC COMMITTEE,
Washington, DC.

The subcommittee met, pursuant to notice, at 10 a.m., in room SD-138, Dirksen Senate Office Building, Hon. Jeff Bingaman (chairman of the subcommittee) presiding.

Present: Senators Bingaman and Gore.

Also present: Richard F Kaufman, general counsel; and Doug Koopman, professional staff member.

OPENING STATEMENT OF SENATOR BINGAMAN, CHAIRMAN

Senator BINGAMAN. The hearing will come to order.

The purpose of the hearing is to conduct an overview of U.S. Government policies concerning high-technology exports to developing countries and how our government is organized to implement those policies.

There has been a growing number of reports in the recent weeks and days of military exports to Iraq and other developing countries, and what is especially disturbing is that items reportedly are being shipped from the United States and from our allies that are useful in the production of nuclear, chemical, and biological weapons and in the production of ballistic missiles.

The official policy, of course, is to bar such shipments in order to prevent or slow down the proliferation of such weapons, but there appears to be considerable disarray in the granting or the denial of export licenses and inconsistencies in the policies that guide the licensing process.

In our own government there appear to be several agencies, each with part of the responsibility to deal with the problems of proliferation. There is, however, a lack of adequate policy direction to these agencies and a lack of proper coordination between these agencies.

In the case of our allies we seem to have even greater problems. Those which are participating in the Missile Technology Control Regime do not seem to be uniformly committed to seeing it succeed, and many of our allies who need to be participating in the MTCR are not, in fact, participating.

These difficulties obviously impede our foreign policy, our national security, and our economic objectives, and the purpose of the hearing today is to see what can be done to improve the situation.

Our first witness this morning is Gary Milhollin. Mr. Milhollin is a member of the faculty of the University of Wisconsin Law School; also the director of the Wisconsin Project on Nuclear Arms Control. He has written a number of reports and articles on the problems of slowing the proliferation of nuclear weapons.

Following his testimony and a brief question and answer period we will have witnesses from the Government.

Mr. Milhollin, we have your prepared statement. If you could take 10 minutes and summarize your prepared statement, then we can ask a few questions. Thank you very much for being here.

**STATEMENT OF GARY MILHOLLIN, DIRECTOR, WISCONSIN
PROJECT ON NUCLEAR ARMS CONTROL**

Mr. MILHOLLIN. I am pleased to be here today.

Senator BINGAMAN. You might pull the microphone up a little closer if you would, please.

Mr. MILHOLLIN. I hope I can shed some light on what has appeared to many to be a rather confusing process, the process of licensing exports of dual-use and other important items from the United States to developing countries.

The first thing I would like to do is make a general statement about the situation that we are in in Iraq. I think the situation is unprecedented in the following sense. This is the first time that U.S. forces have been used to confront the effects of arms proliferation in a developing country so we are seeing now the results of failed export controls in the West.

One of the reasons why we have troops now in the gulf is because Iraq's ability to build a war machine out of practically nothing. We are talking about a country with a small population, no scientific infrastructure, and no manufacturing infrastructure, that suddenly through imports alone has managed to build a daunting military force able to destabilize its region.

So I think we are seeing now the disappearance of a distinction we have always made between national security controls on exports and foreign policy or nonproliferation control on exports.

The fact is that the Third World is now a national security concern of the United States and will continue to be for the 1990's so the Export Administration Act which seems to make distinctions between various types of exports controls based on whether the recipient is a national security threat or a nonproliferation threat or some other kind of a threat seems now not to be any longer terribly relevant to the 1990's.

I think this problem can be illustrated by a few recent cases which I would like to just briefly present.

The first one is the recent one. It involves seven large rocket motor casings which I understand are being shipped this week, possibly today or yesterday, from Chicago to Brazil.

These motor casings were heat treated in the United States with the permission of the State Department. The service of heat treating them is on the munitions list and therefore requires an export license which was granted by the State Department.

The effect of granting this will be to give Brazil seven rocket motor casings that will withstand the stress of launch of Brazil's first big ICBM sized rocket. It is called the VLS.

The VLS as a missile will have a range of about 2,000 miles and will be able to orbit satellites, the first time Brazil has had that capability.

The man most responsible for developing the VLS is General Hugo Piva, former head of CTA, which will be receiving the technology from the United States. Mr. Piva is now in charge of a missile technology development team in Iraq. That team is helping Iraq improve the performance of its Scud missile supplied by the Soviet Union and also helping Iraq develop its own space launcher.

The Soviet supplied missiles are now aimed, I assume, at U.S. troops, and there is mounting evidence that those missiles are armed with chemical warheads.

It has been absolutely clear for a long time that Brazil exports all of its rocket technology. Brazil has converted every space rocket it has made into a missile for export. Iraq has been Brazil's best customer so what we have done in this case is help Brazil take a giant step forward in rocket technology which will be of direct assistance to all of Brazil's foreign customers, and right now Iraq is one of Brazil's primary customers.

It seems to me that for us to do that, something is wrong with our export control system. I believe that the State Department's position is that the granting of this license was a mistake, but the State Department will have, I am sure, an opportunity to explain that situation soon. It is hard for me to see how we can accidentally approve such a service to such a country.

Brazil is a notorious proliferation risk, has been notorious for some time, and Brazil's connection with Iraq has been known for some time. All of this must have been known to the State Department when it approved the export license.

The approval of this service also brings into question our commitment to the Missile Technology Control Regime. We have been trying to convince the French not to sell a big rocket motor to Brazil. We have argued that to sell Brazil a big rocket launch motor undermines the Missile Technology Control Regime, but now we have just helped Brazil do precisely that which we told the French was dangerous.

So I think that with cases like this we run the risk of undermining one of our most important American assets and that is our own good export record. Only if we have a good export record can we hope to convince the rest of the world to have a good record also.

The second case I would like to describe briefly is the export of some nuclear furnaces to Iraq. The White House was forced to step in and block the export of some high-performance furnaces to Iraq at the last minute after these furnaces had been approved by the Commerce Department and after they had been dropped from the CoCom list in the United States, dropped from the commodity control list.

It turns out that the furnaces, at least in the opinion of the White House, would help Iraq in the development of nuclear weapons and would, I think, also help Iraq make parts for ballistic missiles and would help Iraq make aircraft parts.

The ostensible purpose for importing these furnaces was to make artificial arms and legs. There is, I think, a good faith debate on whether these furnaces fell under the definition of the part of the commodity control list they would have been covered by, but I don't think that there is any question that the Commerce Department failed to consult other agencies when it decided to give Con-sarc a green light to build the furnaces.

The furnaces are part of a larger picture, a larger manufacturing picture and a larger picture of what Iraq is really up to. The Iraqis have fielded a well-financed, dedicated, worldwide procurement network, and they are trying to buy things all over the world in the hope that the sellers won't recognize how they fit in to Iraq's general purposes.

I don't think there is any hope of stopping this sort of thing unless we use our security experts and our intelligence experts when we make export decisions. You can't just look at one piece of equipment and say, "Well, its temperature is x , and its capacity is y ," and therefore, in a rather wooden comparison of those facts to something on a list, say yes or no and have an effective system.

I think you have to consider all of the things that the country is trying to get at that time, even from us, and see how they fit together into a picture before you can evaluate what the country says it is going to do with the export.

I think the problem in the Skull Furnace case is that the Commerce Department did not do that. It simply went through a rather low-level comparison of the performance specifications of the furnace to the commodity control list and decided that it was OK.

A more effective system would have used our intelligence assets, used the expertise of the national labs and the Defense Department to determine whether it was likely that these furnaces would be delivered.

As it turns out, the furnaces were stopped through good fortune. We just happened to know about the export because the company had applied for a license in the past. On July 1 the furnaces were dropped from the commodity control list in the United States. That means that if somebody wants to order a furnace tomorrow, that it can simply be put in a crate and sent out. The Government will not know about it so there won't be any opportunity to step in at the last minute and stop it as the White House did under an unusual application, an unusual provision of law that I think only exists in the United States.

The last case I would like to talk about is supercomputers. The Commerce and State Departments now want to export a supercomputer to Brazil. That is, they want to approve the export of a U.S. supercomputer to Brazil. The supercomputer would go to an aircraft manufacturer in Brazil named Embraer.

Embraer, it turns out, is part of a group that is helping Iraq with space launch capabilities and according to reports from Brazil, also helping Iraq improve the very Scud missiles that now appear to be pointed at our troops.

Supercomputers were invented to design nuclear weapons for our arsenal. They are the most powerful tool known for designing both nuclear weapons and ballistic missiles. I think there is a very high risk that the Brazilian company will use the supercomputer to

design missiles for itself and for Brazil, and that the company also will pass along anything that it learns to its foreign customers such as Iraq.

On a more general level it is hard for me to understand how we can seriously consider giving Brazil a high-tech plum such as a supercomputer at the very time that a Brazilian missile development team is in Iraq, and apparently refusing to come home even though it has been requested to do so by its government.

If we want to send a signal to the world that we care about the embargo, I believe that we should begin by restricting our own exports, and the supercomputer is the perfect place to begin.

I think that there are two reasons why our export control system isn't working better, and I will try to summarize them. The first one is that the wrong people are in charge of it, and second, because it is secret. The Commerce Department has general responsibility for licensing dual-use commodities. These are commodities that can be used to make nuclear weapons or ballistic missiles but also have civilian applications.

The little trigger called a Krytron is one of the familiar examples of a dual-use item. Iraq tried to smuggle Krytrons out of the United States in, I think it was March.

The Commerce Department also has the responsibility for promoting exports so the Commerce Department is in the following position: In the first part of the week the Commerce Department figures out how to combine with U.S. export interests to expand U.S. exports, enter markets, reduce the balance-of-payments deficit in a cooperative mode, and then the rest of the week the Commerce Department has to talk to the same people about the dangers of exporting the wrong things.

I think this is an impossible burden for the Commerce Department to carry out effectively. The most recent and well-known precedent for this sort of thing, I think, is the old Atomic Energy Commission. Until 1974 the Atomic Energy Commission had the responsibility of both regulating and promoting nuclear energy. The American public decided that it could not credibly do this so the functions were split. DOE took over the promotion functions, and NRC took over the regulatory functions.

The NRC has reaped an enormous benefit in credibility and effectiveness from that division, and I suggest to you that if we were to take this function of licensing exports out of the Commerce Department and split up the regulatory and promotional functions, that the regulatory function would also gain a tremendous benefit in credibility and effectiveness.

The second point I would like to make about that is that the Commerce Department's process is secret. No member of the public can call up the Commerce Department and find out the status of a pending case. No member of the public can find out even now what we have exported to Iraq. Our troops are in Iraq facing a military war machine furnished in part by us, but the records of which companies furnished the infrastructure, which agencies of the U.S. Government approved the exports, and why they approved them, are all secret.

The reason for that is supposed to be the need to protect the confidentiality of industry information, but I believe that there is no

justification for refusing to reveal cases that have already been decided. There are annual summaries of exports approved by the Commerce Department. They exist on a database. You can get them by pushing a button. They list the company's name. They list the item exported. They list the user and the use and the country, and they list the commodity control number. They don't contain any sensitive information. They don't contain any information that would undermine a company's competitive position. All they do is tell us what we have been doing, and all of these items are civilian items exported for peaceful purposes. They are not military exports. They shouldn't be sensitive.

Their only real significance is in their possible strategic value if they are diverted so I don't see any reason why the subcommittee couldn't request this information from the Commerce Department.

In fact, I think that the subcommittee should request it. That is one of the first things that the subcommittee should do, in my opinion.

In my prepared statement I also have listed a number of rather sensitive technologies that have just been dropped from export controls. These are listed in my prepared statement. Many of these items in the past have been featured in cases in which we, the United States, have intervened to prevent them from going out, and some of them to places like Iraq. Now that they have been dropped, it is possible for Iraq to order some of them directly from us.

In the case, for example, of nuclear weapon triggering devices Iraq can order them through Eastern Europe.

I believe it is time for us to stand back and take a look at this whole process of deciding what we need to regulate and for whom. The export control process worked well in CoCom. The Soviet economy is an example of how well CoCom worked. We now need a new system like CoCom to take care of the north-south problem.

It is, I think, one of the highest security priorities for the United States in the 1990's, and I think we should get to work on it immediately.

[The prepared statement of Mr. Milhollin follows:]

Wisconsin Project on Nuclear Arms Control

Gary Milhollin
Professor, University of Wisconsin School of Law
Director

BEFORE THE SUBCOMMITTEE ON TECHNOLOGY AND NATIONAL SECURITY
OF THE JOINT ECONOMIC COMMITTEE
UNITED STATES CONGRESS

September 21, 1990

PREPARED STATEMENT OF GARY MILHOLLIN

I am pleased to have this opportunity to address the Joint Economic Committee on the subject of United States export controls.

I am a member of the University of Wisconsin Law School faculty and director of the Wisconsin Project on Nuclear Arms Control in Washington, D.C., a project devoted to slowing the spread of nuclear weapons to developing countries.

Project office:
1900 L Street, NW, Suite 601
Washington, DC 20036
Tel.: 202-223-8299 FAX: 202-223-8298

I would like to begin by saying that our present conflict with Iraq is unprecedented in the following sense: it is the first time that U.S. forces have been used to confront the effects of arms proliferation in a developing country. Iraq's great potential for building weapons of mass destruction is one of the reasons why U.S. troops are now poised for war in the Gulf. If war comes, and Western "guests" still shield Iraq's arms factories, the West will be forced to bomb its own citizens to destroy its own exports. An attack on these installations will also guarantee a bloody, full-scale land war and even more U.S. casualties--many from Iraqi chemical weapons.

I believe that the West has fallen into this situation because of ineffective export control policies. Although other countries have contributed more to Iraq's war machine than the United States, our exports have clearly been imprudent. I would like to discuss three cases which show how the inadequacy of U.S. export controls has contributed to the problem the United States now faces in Iraq.

Recent cases

Rocket Casings for Brazil

This week seven large rocket motor casings are being shipped out of Chicago to Brazil. The casings were heat-treated by a Chicago firm so that they could withstand the stress of the first launch of Brazil's largest rocket, the VLS.

The VLS will enable Brazil for the first time to launch a satellite and to build a strategic missile. As a missile the VLS will have a range of over 2000 miles with a payload of 500 kilograms, the presumed weight of a first-generation nuclear missile warhead.

The VLS is being tested by CTA, the research arm of the Brazilian Air Force. The man most responsible for developing the VLS is General Hugo Piva, the former head of CTA, who is now in charge of a Brazilian rocket technology team in Iraq. The team, composed of former employees of CTA and other Brazilian companies, is helping Iraq improve the performance of the SCUD missiles now aimed at U.S. troops--missiles that probably carry chemical warheads.

The team is also helping Iraq develop its new Al-Abid space launcher, first tested last December. Brazil's VLS and Iraq's

Al-Abid share the distinction of using exactly the same configuration of rocket motors--five motors grouped together in a first stage, with two more single rocket motors stacked on each other as the second and third stages. If the Al-Abid works, it will give Iraq the ability to launch spy satellites and will move Iraq closer to having a strategic long-range missile.

It is absolutely clear that the Brazilians will pass on whatever they learn about launching and guiding multistage rockets to Iraq. The U.S. heat treatment of the VLS casings will directly contribute to strategic missile proliferation in both Brazil and Iraq. Brazil has converted every one of its space rockets into a missile for export, and Iraq has been a preferred customer.

The heat-treatment of such an item is a service contained on the U.S. Munitions List. Therefore it requires an export license from the State Department. State says that the license was granted in error. Since Brazil is a notorious proliferation risk--it rejects the Nuclear Non-Proliferation Treaty and has secret missile and nuclear weapon development programs--it is difficult to imagine how any part of the U.S. government could "accidentally" agree to assist Brazil in such a venture. The case shows that something is seriously wrong with the export review process.

A second question is what happened after the mistake was discovered. The State Department apparently decided to override objections from the rest of the government and push the export through. This result directly undermines U.S. credibility as a member of the Missile Technology Control Regime (MTCR). Missile casings are on the MTCR's list of items which the members are not supposed to export.

Very recently, we have put great pressure on France to prevent the sale of French rocket motors to Brazil that France said would be used only to build a space launcher. The United States argued that there was no difference between a big space launcher and a big missile, and that the French sale would undermine the MTCR. We must now admit that there is also no difference between a big rocket casing and a big missile casing, and that our heat treatment of Brazil's missile casings also undermined the MTCR.

Nuclear Furnaces for Iraq:

On July 19th, the White House blocked the sale of a "skull" furnace to Iraq by the Consarc Corporation of New Jersey. This high-performance furnace can melt plutonium and uranium for nuclear bomb cores and melt titanium for missile nose cones and other critical missile parts. The skull furnace was to be accompanied by three other furnaces: an electron beam furnace

.. from Consarc, and furnaces for vacuum induction and heat treatment from Consarc's British subsidiary.

Used together, the four furnaces would have formed a powerful production line, far exceeding Iraq's needs for its stated end use of manufacturing artificial limbs for victims of the Gulf War. According to U.S. officials, Iraq would have had a "Cadillac" production line for atomic bomb and ballistic missile parts, even better than the facilities at American nuclear weapons labs. The White House intervened at the last minute, after the furnaces were crated and ready for shipment.

The White House had to take this drastic step because U.S. export law changed on July 1, 1990. On that date Cocom (the Coordinating Committee on Multilateral Export Controls, composed of Japan, Australia, and all NATO countries except Iceland) dropped export controls on thirty categories of equipment, almost all of which can be used to make nuclear weapons or long-range missiles. Skull furnaces were among the items decontrolled by both Cocom and the United States.

The furnaces were stopped through good fortune. The manufacturer, Consarc, notified the Commerce Department in 1989 of its intention to sell Iraq a high-performance furnace that could aid a nuclear program. The Commerce Department told Consarc--mistakenly, it appears--that there was no need to apply

for an export license. In June, just before the furnaces were to be shipped, the State Department contacted the Customs Service, which put a twenty-day hold on the shipment. In July, before the hold expired, the Commerce Department gave Consarc a letter requiring Consarc to get an export license.

Because the furnaces were dropped from the U.S. Commodity Control List on July 1, the only remaining ground for requiring an export license is Section 778.3 of the Export Administration Regulations. This section obliges the exporter to get a license if he "knows or has reason to know" that the commodity "will" be used in "fabricating ... nuclear weapons." Thus to block the shipment the U.S. government had to declare that Iraq was going to use the furnace to make atomic bombs.

The declaration was an affront to Iraq, which claimed that the furnace had only civilian applications. Making this affront was the price that the White House chose to pay in order to stop the export. If Pakistan or Israel tries to buy the same furnace next month, the diplomatic price will be higher. Both of these countries have strong ties to the United States. Making last-minute nuclear accusations is not the best way to handle export cases.

Nor is it an adequate way to handle them. The U.S. government only knew about the furnaces through Consarc's earlier

application for an export license. If Iraq should order another skull furnace next week from someone else, no license requirement will apply. The furnace is no longer on the export control list. Without a license application, the government will not know about the order, and will not be able to block it by giving the exporter a letter notifying him of Iraq's nuclear intentions, the procedure required under Section 778.3.

Pakistan, India, South Africa, or any other country trying to make nuclear weapons and missiles can also buy the furnaces directly from Consarc, without applying for a license or providing any notice to the U.S. government. Consarc has not received notice that any of these countries might put its furnaces to nuclear weapons use, so no license for such sales would be required, even under Section 778.3.

Consarc, in fact, now has an application from Romania for furnaces comparable to those that Iraq ordered. If Consarc fills this order, there will be a fairly obvious risk that the furnaces will not stay in Romania.

In view of the White House's action in the Consarc case, the U.S. decision to decontrol the furnaces seems to have been a mistake. If the Bush administration believes, as it clearly does, that the furnaces would help Iraq make nuclear bombs and

missiles, the Commerce Department should not have dropped the furnaces from the export control list.

Supercomputers for Brazil:

In addition to these two cases, another is nearing resolution now. The State and Commerce Departments want to approve the export of an I.B.M. supercomputer to Brazil. Supercomputers were invented to design nuclear weapons for the U.S. arsenal and are the single most powerful tool for designing nuclear weapons and ballistic missiles. The supercomputer would be sold to Embraer, the Brazilian aircraft manufacturer.

Embraer's stated use for the supercomputer is aircraft design. However, the programs for calculating air flows around aircraft noses and wings are essentially the same as those for calculating the forces acting on missile noses and fins, and are closely similar to those for modeling nuclear explosions. Embraer is located next door to and exchanges personnel with CTA, Brazil's Aerospace Technology Center. CTA's scientists, who have converted all of Brazil's space rockets into missiles, will have access to Embraer's supercomputer and could use it for military purposes.

Furthermore, Embraer and CTA have both contributed personnel to the Brazilian team in Baghdad that is helping Iraq extend the

.. range of its SCUD missiles. These high-tech mercenaries will have direct access to Embraer's supercomputer and could share its calculations with their Iraqi customers. For the sake of making a sale, the State and Commerce Departments are willing to transfer a tool to Brazil that could enhance Iraq's ability to threaten U.S. and allied forces in the Middle East with ballistic missiles, possibly carrying chemical warheads.

In addition to calculating the forces acting on a missile in flight, supercomputers can simulate the implosive shock wave that detonates a nuclear weapon, calculate the multiplication of neutrons in a chain reaction, and model the nuclear fusion reaction in a thermonuclear explosion. CTA is an integral part of Brazil's "parallel" nuclear program and has enriched uranium nearly to nuclear weapons grade in Brazil. Iraq is also working to master this process, so there is the risk that Iraqi weapons designers could receive the data on nuclear explosions generated by Brazil's supercomputer through CTA. The I.B.M. supercomputer could thus help design the Iraqi bomb as well as Iraqi missiles.

The Commerce Department's regulations require that a country seeking to purchase a U.S. supercomputer should have good "nonproliferation credentials." The applicant should be a party to the Nuclear Nonproliferation Treaty; have opened all of its nuclear activities to international inspection; have a nuclear trade agreement with the United States; and be generally

cooperative on nuclear non-proliferation policy matters. Brazil meets none of these criteria, and is a major military exporter to Iraq and other countries. In other words, Brazil is exactly the kind of country that makes export controls necessary. However, Commerce and State nevertheless think Brazil should receive a supercomputer. If such transfers can take place, it is fair to ask why we have export controls at all.

Other U.S. sales:

These cases now seem to be the rule rather than the exception. Over the past six years, the United States has exported--to Iraq alone--such dual-use technologies as high-speed oscilloscopes and mainframe computers that can be used for missile design, and millions of dollars' worth of electronic devices that can be used for chemical testing and the production of chemical weapons. Most recently it was revealed that the United States licensed the export to Iraq of image enhancing equipment with aerial reconnaissance and missile targeting applications.

Iraq rightfully is the center of concern today, but military programs in other Third World countries are also progressing, and if we do not find an effective way to manage this problem we will have to mount sequels to Operation Desert Shield to undo what American suppliers have done elsewhere.

Flaws in the System

Our export control system is breaking down for two reasons: first, because the wrong people are in charge of it, and second, because it is secret.

It has frequently been said that there is a conflict between the Commerce Department's duty to promote exports and its duty to regulate them--that Commerce has conflicting missions in the export field. The Consarc case illustrates this problem. Although Consarc explicitly told Commerce last year that the skull furnace could aid Iraq's nuclear program, Commerce nevertheless decided that no license was necessary.

The furnace was not an isolated piece of equipment. It was intended to fit into a production line with other furnaces that together could mass-produce atomic bomb and missile parts. To understand the implications of Iraq's purchase, one had to understand how the furnaces fit together into a system and know the current status of Iraq's nuclear weapon and missile production efforts. To understand all of that, one had to consult experts at the Pentagon, the Department of Energy, the State Department, and the Arms Control and Disarmament Agency. Commerce apparently failed to do so.

The furnace was only a single element of Iraq's overall procurement effort. Iraq has fielded a worldwide team dedicated to acquiring everything it needs to mass-produce nuclear weapons, chemical weapons and long-range missiles. Iraq will try to buy the components of this war machine from different suppliers, one at a time, hoping that the totality of its efforts will not be understood. There is no hope of stopping Iraq without referring individual export cases to the U.S. agencies charged with tracking Iraq's purchasing and development efforts.

I believe that the responsibility for licensing exports of dual-use items should be removed from the Commerce Department and given either to an independent regulatory agency such as the Nuclear Regulatory Commission, or to some other department, such as Defense or State, that has no export promotion function. It is essential to recognize that the number of dual-use items on the control list is small; that well over 90% of the applications to export them are granted; and that the value of the few applications which are denied is tiny compared to the overall value of U.S. foreign trade. The only real significance of these items is strategic, not economic. The place to decide strategic questions is not the Commerce Department, which is only concerned with the economic aspects of trade. The proper place to do so is an agency that specializes in security questions.

The best-known example of a federal agency that tried to promote and regulate at the same time is the old Atomic Energy Commission, which had the job of both promoting and regulating nuclear energy until 1974, when the functions were split. The Nuclear Regulatory Commission now regulates; the Department of Energy promotes. The regulatory process gained credibility and effectiveness from this separation.

The other important lesson we can draw from the NRC is the great benefit of making decisions in public. All of NRC's export decisions are made on the public record and in the light of day. This is the main reason why we are not hearing horror stories about U.S. nuclear exports to Iraq. Hardly anyone would want to defend such a transaction in public. Notwithstanding the NRC's openness, our nuclear industry still seems to compete effectively on the international market.

The Commerce Department's process is secret. Neither Congress nor the public is permitted to examine in the open the record of what Commerce has sent to Iraq over the last five years. Cases come into public view only when someone inside the government becomes angry enough to leak them to the press. This is true despite the fact that all the dual-use exports that Commerce licenses are for civilian commodities restricted to peaceful use.

Congress should now require Commerce to disclose what the United States has sent Iraq over the last five years. Without that knowledge, we do not know what our forces may be facing there, and don't have any facts upon which to judge the licensing process. Commerce could do this easily by publishing the annual summaries of the licenses granted for dual-use items on the Commodity Control List. These annual summaries already exist in a database. They could be published by pushing a button. They would tell Congress and the public exactly what high-technology U.S. exports we now face in Iraq, and what we may face in the future as Iraq makes use of the exports. There is no excuse for not doing this. All of the exports were of civilian products, and all of the transactions have been completed. There is no risk that pending transactions will be revealed.

In the future, Commerce should be required to publish quarterly summaries of cases decided, so that Congress and the public can see what sort of exports are being approved. This light on the process would go a long way toward solving our dual-use export problem. Today, only the exporters know what cases are pending, and only the exporters' voices are heard by the licensing officers when decisions must be made. The public and Congress are frozen out of the process.

Scope of International Export Controls

The final topic I would like to discuss is the recent decision to reduce the export controls applied through Cocom. As I have already stated, the United States dropped export controls on skull furnaces on July 1. Among the other sensitive commodities dropped from the list are:

<u>Item (by old ECCN number)</u>	<u>Comments</u>
1075 Spin forming machines	U.S. officials tried to prevent Iraq from getting these machines from Germany. They are used to make uranium gas centrifuges for converting natural uranium to nuclear weapon material
1129 Vacuum pumps	Last year, U.S. officials seized vacuum pumps that Iraq was trying to import from the U.S. without a license. They are used to pump fragile uranium gas through centrifuges
1635 Maraging steel	In 1987, U.S. officials arrested a Pakistani in Philadelphia for trying to smuggle maraging steel out of the U.S. Maraging steel is used to make the thin metal walls of uranium gas centrifuges

In addition to the above items, there is a second group that the United States has dropped off the licensing list for Eastern Europe, but has kept on the list for developing countries with nuclear and missile ambitions. These include the nuclear

weapon triggers called krytrons that Iraq tried to smuggle out of the United States in March.

Iraq cannot buy these triggers directly from the United States without a license. But Iraq can order them through Romania. It is perfectly legal to ship U.S. triggers in large quantities to Romania (or Hungary or Czechoslovakia) without a license. This means that there is no obligation to notify the U.S. government of the shipment, ask the buyer for an end use statement or restrict the triggers' re-sale. Thus the triggers can go to Iraq through Romania without breaking any laws. This gap in the U.S. control system is another mistake. There is no point in barring Iraq from buying directly what it can legally buy indirectly. The only apparent effect of such a system is to enrich Eastern Europe through brokers' fees.

Following are some of the items in this category:

<u>Item (by old ECCN number)</u>	<u>Comment</u>
1312 Isostatic presses	Uses high temperature and pressure to press plutonium to the exact size needed for fission bomb cores, and can form "carbon-carbon" for missile nose cones and nozzles. Lower-performance presses are now cleared for Eastern Europe
1541 Cathode ray tubes	Used as displays for oscilloscopes (item 1584 below)

- | | |
|-------------------------------|--|
| 1542 Cold cathode tubes | Includes the krytrons Iraq tried to smuggle out of the United States in March, and triggered spark gaps, both of which can trigger the rapid electric discharge that detonates a nuclear explosion |
| 1559 Hydrogen thyratrons | Same nuclear triggering function as cold cathode tubes--larger than krytrons, better than triggered spark gaps |
| 1584 High-speed oscilloscopes | Can process the rapid data from nuclear tests, help develop missile guidance systems, and sort the data from missile flight tests |

A few of the items that Cocom dropped are still on the U.S. export list for all destinations, meaning that they require a license even for Eastern Europe. These are mainly items useful for making long-range missiles. Iraq therefore cannot buy these items directly from the United States without a license, or order them through Eastern Europe without a license.

The problem is that Iraq may be able to buy them from other members of Cocom without a license. The Cocom list is the only basis for export control in most European members of Cocom. Although Cocom is only supposed to deny technology to Communist countries, most of the West Europeans have not distinguished between keeping technology away from the Warsaw Pact and keeping it away from the Third World. Thus, when an item falls off the Cocom list, it simply drops out of these countries' export

licensing systems. This is true of the United Kingdom, Italy, Spain, and undoubtedly of other members of Cocom.

The UK, for example, was holding up Consarc's two furnaces in Scotland before the U.N. embargo against Iraq took effect. Without the embargo, however, U.K. officials would not seem to have any legal basis for blocking the shipment even in light of its probable nuclear application.

Some of our Cocom partners adhere to the Missile Technology Control Regime, a seven-country accord including the United States whose members agree not to export long-range rockets or the means to make them. U.S. officials have asked the other MTCR members to refrain from exporting the decontrolled items. But in view of the existing disputes among the members over what the regime covers, it is not clear what effect these U.S. requests will have. For example, the other members are not likely to regard Eastern European countries as missile proliferation threats. This will mean that Iraq can order these items from other Cocom members through Romania.

The items in this category appear to be limited to the following two, which the Commerce Department designated as being of special concern for missile proliferation in March, but which were deleted from the Cocom list in June:

<u>Item (by old ECCN number)</u>	<u>Comments</u>
1518 Telemetering and telecontrol equipment	Used in missile guidance to receive data from missile flight tests and to guide pilotless aircraft and missiles
1587 Quartz crystals	Useful in radars, electronic warfare and lasers

By the end of 1990, the entire "industrial list" of dual-use items will be dropped. In its place will be a much smaller "core group" of items restricted to eight specific categories. Unfortunately, the categories do not seem to include several sensitive items that the United States has tried for years to keep away from proliferant countries. By the end of 1990, these items will probably be available without a license from other Cocom members, even if the United States decides to retain them on the U.S. control list. The items include:

<u>Item (by old ECCN number)</u>	<u>Comments</u>
1312 Isostatic presses	Same use as described above. Even high-performance presses will be dropped from control by 1991
1357 Filament winding machines	Can produce special fibers for the bodies of uranium gas centrifuges (used to produce nuclear weapon material) and for the casings of rocket motors

THE ABILITY OF THE U.S. GOVERNMENT TO ORGANIZE EXPORT CONTROLS

Senator BINGAMAN. Thank you very much for that testimony. Let me ask a few questions, and then defer to Senator Gore to do the same, and then get on with our government witnesses.

Your description of the problem particularly with the furnaces, where the Commerce Department failed to consult with other agencies, the reading I have done and some of the articles you have written and others have written on this problem, leads me to conclude there is a hodgepodge of authority scattered among the various agencies, depending on what it is we are trying to prevent the proliferation of; that there are some agencies getting involved when it is nuclear. Some others get involved when it relates to other types of weaponry, and it is not readily apparent as to why we are organized the way we are.

Could you just comment on the extent to which you think that the internal organization of our government—I know you made the point that the Commerce Department should not have the lead because it also has the responsibility to promote exports, but even putting that aside, what is your view of the rest of the organization that we have in place to deal with this problem?

Mr. MILHOLLIN. I think it is more cumbersome and more subject to errors than it should be. I think that it doesn't have sufficient accountability because most of it is off the record.

The only part that has any accountability is NRC's part because NRC does everything on the record publicly so if somebody comes in and asks for some nuclear fuel or asks for a reactor, then everybody finds out about it, and it becomes part of public debate. So the first thing I would do would be to open it up and let the public see what is going on.

NATIONAL SECURITY CONTROLS SHOULD BE IN PLACE FROM THE BEGINNING

The second thing I would do is abolish the distinctions that have grown up between national security controls and other types of controls. The way the law is written now, the Pentagon is involved if it is a national security issue but not for other things. Unfortunately, the result of not involving the Pentagon in some of these cases may be that the Pentagon is now involved on the ground.

I think it is much better to involve the national security apparatus early in the process than at the end when you have to do something about the exports.

So I would either create a new agency which is responsible for exports or I would give the process to some kind of national security agency, either the State Department or the Pentagon, and I guess I would give it to the Pentagon.

There are lots of different forces which are acting on this process. The exporters want fewer controls. They want quicker answers to applications. The people who worry about security want more time. They want a more thorough process. There are lots of various interests which conflict, and I think the American way is to put it in the public and let them fight it out.

So I would create either a new agency like the NRC to handle this or I would give it to an impartial agency such as NRC or some combination of the Pentagon and the State Department.

PLUGGING THE INTELLIGENCE COMMUNITY INTO THIS PROCESS

Senator BINGAMAN. Let me ask about the extent to which we have a real problem with the intelligence community being plugged into this process.

It strikes me as a major concern that until we had the invasion of Kuwait on August 2 there didn't seem to be any great effort to prevent transfer of some of the high-technology items that you have been referring to to Iraq.

I don't know if that is because we have bad intelligence capabilities and didn't know that there was a problem or if there is some problem in the regulatory situation.

WARNING GIVEN ON POTENTIAL DANGERS OF EXPORTS TO IRAQ

I notice you were writing articles for both the Washington Post and the New York Times prior to August 2 trying to sound the alarm about potential dangers of transfers to Iraq, but there didn't seem to be any real, concrete action taking place within the administration. Am I wrong on that?

Mr. MILHOLLIN. No, that is right. Some of us were trying to warn the administration about the risks of sending things to Iraq, but nobody was listening. I believe that the famous tilt toward Iraq which we have seen discussed also had an effect on the licensing process.

Senator BINGAMAN. This is the tilt toward Iraq that was part of our position vis-a-vis the Iraq-Iran war?

Mr. MILHOLLIN. Yes. It existed throughout the war and even after it was over. There was a feeling that we ought to accommodate Iraq, could deal with Iraq, should constructively engage Iraq, up until the time when the Iraqi forces crossed the border. So the State Department, I am told, in formulating its position on exports, followed the same view toward Iraq that it did in its general foreign policy evaluations. That is, felt that in doubtful cases the export to Iraq should go out.

There were some exports of equipment such as high-speed oscilloscopes that I am convinced are now helping Iraq's missile program directly and will help Iraq's nuclear program if Iraq ever gets to the point where they can test a weapon. So this was just a case of being shortsighted and being wrong about the politics.

Senator BINGAMAN. Let me defer to Senator Gore to ask questions at this point.

CURRENT EXPORT CONTROL PROGRAM INEFFECTIVE

Senator GORE. Thank you very much, Mr. Chairman, and thank you for convening this session. I think it is very timely and extremely significant because we spend a great deal of time and a lot of words talking about the crisis now underway in the gulf, and we don't spend enough time looking at the events which led up to it, including the way in which the West actively participated and led the way in assisting Saddam Hussein in his efforts to build this

machine for aggression which has caused the problems now occupying our attention in creating such a crisis for the world.

I have been pleased, Mr. Chairman, to work with you and our colleague, Senator McCain, on a new effort to control the export of ballistic missile technology to nations that should not acquire it, and we have made a little progress in that particular effort this year, but I agree with you the policy should be extended and we should be looking at all of the critical technologies that can markedly enhance the ability of a nation that does not now have weapons of mass destruction to use them, develop them, and deliver them on targets around the world, and I think we need a coordinated policy.

The export review problem which we are discussing here at the present time should, of course, be embedded in a larger context which includes a geopolitical effort to create within the new world order. President Bush discusses a whole set of incentives that steer nations away from this course of action.

Even the START treaty still pending in Geneva, still being negotiated in Geneva, is part of this effort because of the implicit bargain between the superpowers and the nonnuclear states which we and the Soviet Union have not lived up to.

So with the thaw in superpower relationships we need to get that off center and really move swiftly to take advantage of the opportunity that is present, but looking specifically at this aspect of the problem, the need to control the export of materials that shouldn't be exported, I take it as the essence of your testimony here, Mr. Milhollin, that in your view our current export control program is fragmented, mechanical in operation, half hearted in implementation, and ineffective overall.

Is that an unfair summary of what you are saying?

Mr. MILHOLLIN. Well, I think in fairness to the people sitting behind me I would say that describes the German system perfectly. [Laughter.] But it may be a little too—I would say it is perhaps a little too tough on us.

Senator GORE. A little too harsh.

Mr. MILHOLLIN. A little too harsh on our people. We have the best system in the world by far, but it could be improved a lot, and if it is, then I think it would have benefits not only for us but for our ability to deal with other countries, and if I could expand on that just for a second, I would like to.

I have been following German export behavior very carefully, and I have testified before the Bundestag on the question of whether Germany is violating the nonproliferation treaty with its export behavior.

One of the big problems in Germany has been that we have made demarches to Germany which have been received by the foreign ministry. The foreign ministry turns around to the economics ministry and says, "Fellows, this isn't working. The Americans are right. You have to do something," and the economics ministry says, "Pass a law." The economics ministry isn't interested because it is in the thrall of the German export industry and so the Germans in a way have the same problem we do; that is, they need to give control over the process to the right people, and I think our record is certainly excellent compared to the Germans.

But unless we have an even better system than we have now to use as an example, we are not going to be able to bring the rest of the world along to the point that we need to in order to solve this problem in the next 10 years.

Senator GORE. So the German effort and the German record is really disgraceful in this area, but in addition to that you don't want to be heard as being quite so harsh in your criticism of our export control program. If you look at the three examples that you use, one kind of gets the message that you are extremely unhappy with the way that this is being handled.

Mr. MILHOLLIN. That is certainly true. I am extremely unhappy with it, and I think that it is terrible that we have had to wait until our troops are faced with the consequences of this in order to even care enough about it to get concerned. The time to worry about it was 5 or 10 years ago, not now.

Senator GORE. You want to give adequate credit to what has been done, but point out the shortcomings and call for improvements.

My own view is that there are a lot of good people engaged in this effort, and we do have the best system in the world, but I really do not think it is working the way it should, partly for the reason that you described in the German context, the fragmented responsibility and the separation of the will from the way, if you will.

INVOLVING THE INTELLIGENCE COMMUNITY TOTALLY IN THE PROCESS

But I think there is another reason, too. We ought to have within our intelligence community a complete mirror image of what technologies a country like Iraq has and doesn't have.

Mr. MILHOLLIN. We do have that.

Senator GORE. It is not evidently being used. I am sure we do, but it is not presented in a way that triggers the control of procedures.

Mr. MILHOLLIN. That is exactly right.

Senator GORE. Maybe sometimes it does, but too frequently it does not, and I think that is the area that we really need to explore.

Incidentally, on this furnace example, I want to ask for from the Commerce Department a chronology from their point of view. Maybe we can present it in the record along with yours to see what has happened there.

Then one final comment, Mr. Chairman, because I know that we have a lot of witnesses, and I will close on this.

CHANGES IN BRAZIL'S POLICIES

I want to say that I was really excited and pleased to see the new President of Brazil announce the closing of the bore hole in the Amazon that was allegedly dug to use in the nuclear testing program. Now, maybe there is more there than meets the eye, and there is undoubtedly an awful lot I don't know about it, but the overall message I got from that was that he is taking a very different approach to what the Brazilian military was doing during the period when the constitutional government was suspended.

Do you have a comment on that?

Mr. MILHOLLIN. I think the Brazilians, in order to qualify for the kind of aid they want from us, the kind of technology they want from us, should make some rather public and binding statements about what they are going to do with the technology that they import.

So far they have publicly rejected any suggestion that they impose controls on their own exports. I think as long as the country takes a position that they are free to proliferate any technology that comes in that it simply is impermissible to help them either with technology that can be for nuclear purposes or for ballistic missiles so I think even though it is nice to fill up the hole, which I understand was dug under the direction of the man formerly head of CTA who is now in Iraq, I think even though you fill up a hole you still need to fill up the holes in your own export policy in order to be taken seriously.

Senator GORE. One final comment, Mr. Chairman. I agree totally as a symbolic message that was a good statement, but they do have to go further, and when we had one of our first briefings immediately after the Iraqi invasion I asked questions about the Brazilian connection because their bilateral trade relationship is so pronounced.

In fact, all of the talk that came out about the rain forest and cattle ranching, the biggest single customer for beef coming out of the Amazon has been Iraq. I don't know what it is this year, but it has been in the past for several years Iraq, so they have a very large two-way trade flow in technology.

I will end there, Mr. Chairman, and look forward to the next panel.

CONCLUSION

Senator BINGAMAN. Thank you, and thank you, Mr. Milhollin, very much. Thank you for your testimony. We will undoubtedly have additional questions and be in touch with you to get your views on additional items as we go forward. This probably will not be the last hearing that we have on this subject.

Mr. MILHOLLIN. If you want to ask me any more questions this morning, I will remain until the Government finishes.

Senator BINGAMAN. Thank you very much. We appreciate that. Our next panel is made up of key officials in the relevant areas of responsibility and authority in the Departments of State, Defense, and Commerce. Elizabeth Verville is Deputy Assistant Secretary of State in the Bureau of Political and Military Affairs. Henry Sokolski is Deputy Assistant Secretary for Defense for Nonproliferation Policy, and Michael Galvin is the Assistant Secretary of Commerce for Licensing in the Bureau of Export Administration.

Because the hearing was called on short notice, the witnesses were not required to submit any kind of prepared statement. However, we did give some questions to them in the letter of invitation.

Why don't we have them all come forward here as a panel, and we will proceed alphabetically so you folks can figure that out.

That means Mr. Galvin would be first, giving each witness about 10 minutes to make an oral statement, and then after we have

heard from all of the witnesses we would have some questions of the whole panel.

STATEMENT OF JIM LeMUNYON, DEPUTY ASSISTANT SECRETARY FOR EXPORT ADMINISTRATION, DEPARTMENT OF COMMERCE

Mr. LeMUNYON. Mr. Chairman, my name is Jim LeMunyon, Deputy Assistant Secretary for Export Administration for the Commerce Department. I am not Mr. Galvin but alphabetically I would still go first. I work for Mr. Galvin.

Senator BINGAMAN. Your name?

Mr. LeMUNYON. LeMunyon, Deputy Assistant Secretary for Export Administration.

Senator BINGAMAN. Was there a problem with Mr. Galvin not being able to attend?

Mr. LeMUNYON. At the Commerce Department, I was the person designated to testify. I think there may have been a mixup in transmitting my name to the subcommittee.

Senator BINGAMAN. We are glad to have you here, and we look forward to hearing from you about whatever you can tell us about the problem of export licensing.

Mr. LeMUNYON. In the interest of getting to the questions you and Senator Gore might have, why don't I just make a few brief opening remarks? I think that my colleagues will also have remarks, and then we can answer your questions.

First, let me thank you for the opportunity to appear before the subcommittee today to discuss export control policy. In response to your letter of invitation, I am prepared to discuss the statutory provisions related to the control of commercial technology and its impact on proliferation, our international activities related to proliferation around the world, and measures that we at the Commerce Department are taking to ensure that appropriate goods and technology useful in missile, chemical, and biological weapons development are subject to U.S. and international export controls.

The crisis in the Persian Gulf calls attention to U.S. foreign policy in that region. Prior to the trade embargo against Iraq, U.S. policy supported exports of goods and technology to that country for peaceful purposes.

However, strict controls were in place in concert with its allies to prohibit the export of items necessary to the development of missiles, chemical and nuclear weapons to Iraq and many other countries.

In particular, I want to highlight that the United States is working with its allies under the auspices of the Missile Technology Control Regime to harmonize and strengthen controls with other industrialized countries. At the most recent meeting of the MTCR in July of this year, countries harmonized missile technology controls and took additional steps to expand the number of participating countries.

The goal was to include all industrialized countries which would represent a significant expansion from the original seven nations that established the Missile Technology Regime in 1987.

In addition, the participants also agreed to review independently the Missile Technology Annex which consists of those items that

are subject to control. Any proposed revisions to the annex submitted by the various member nations will be examined at the upcoming technical meeting of the missile technology countries.

The United States also distributed the list of missile projects that we use at the Commerce Department to make licensing decisions. We did this to ensure that other member nations' export control and licensing practices are consistent and effective.

This will not only strengthen multilateral efforts to halt missile proliferation but also ensure that U.S. firms are not placed at a competitive disadvantage. The United States has taken other important steps to strengthen nonproliferation controls in recent years. Additional measures were underway before August 2, and I would be pleased to discuss these initiatives with you in response to your questions.

Finally, I'd like to touch on the issue that the first witness mentioned related to CoCom, which is discussed in his prepared statement. As I think the subcommittee is aware, CoCom has undergone some rather dramatic changes in recent months. The control list was substantially reduced at a high-level meeting in June. Those changes were implemented in July and then some additional changes in August.

Next week the United States plans to table in CoCom an entirely rewritten draft of what we call a core list for control which will be negotiated this fall and effective in early 1991. However, I want to assure you that missile controls have remained intact, remain on the U.S. control list, and have remained since the CoCom East-West controls were dropped in July of this year.

In addition, I want to assure the subcommittee that shortly after the President made our proposal to CoCom in early May, the United States cabled the 16 other CoCom allies specifically on the question of nonproliferation controls, indicating which items we were recommending for East-West control that should be retained for nonproliferation purposes.

We asked for a response from 16 countries on whether the CoCom changes would weaken each member country's proliferation controls, and we received 16 responses saying that CoCom countries would retain controls. Obviously, we are following up to make sure that, in fact, that remains to be the case.

As part of our proposal going to CoCom next week, we have indicated that we are not prepared to implement this new core list in 1991 if it means that nonproliferation controls would be weakened on the part of some of our CoCom allies. I can assure you that they will not be weakened when we implement the core list here in the United States.

Finally, in response to Senator Gore's comments a little bit earlier, the Commerce Department would be pleased to submit a chronology on the Consarc case, and we look forward to doing that.

Thank you.

Senator BINGAMAN. Before we ask questions let me go through the other witnesses here.

Mr. Sokolski, we are glad to have you here to represent the Department of Defense.

STATEMENT OF HENRY SOKOLSKI, DEPUTY ASSISTANT SECRETARY FOR NONPROLIFERATION POLICY, DEPARTMENT OF DEFENSE

Mr. SOKOLSKI Thank you, Mr. Chairman. First, let me thank you for holding this hearing today and for allowing me and the other panelists to appear before you to discuss nonproliferation policy and process issues.

Regular oversight is always useful, and I believe the rest of the panel appreciate the personal interest that you have shown on nonproliferation issues, and also Senator Gore.

Your written invitation asked for two things, a clear statement of DOD's position on the advisability of aiding the space launch vehicle programs of developing nations such as Brazil; and an assessment of the adequacy of the statutory and regulatory basis for the review of export licenses for sensitive nuclear missile, chemical and biological technologies to Third World nations.

In answer to your first question on the issue of space launch assistance to the Third World, DOD backs current U.S. policy, that is, to hinder the spread of nuclear-capable missile systems, including ostensibly the civilian launch programs. It is for this reason that the United States in large part supports the Missile Technology Control Regime.

As the U.S. Government noted publicly when the MTCR was announced in April 1987, I quote: "The Regime aims at the control of all devices of this nuclear capability, even if they are called peaceful or alleged to be for military purposes, other than weapons delivery." Space launch vehicles, for instance, are virtually interchangeable with ballistic missiles.

When President Kennedy was asked the difference between the Atlas rocket that put John Glenn into orbit and an Atlas rocket armed with a nuclear warhead, he replied with one word: "Attitude." Precisely because we cannot control—

Senator BINGAMAN. Is that John Glenn's attitude you are talking about?

Mr. SOKOLSKI. I suspect he was talking about the angle of trajectory. Precisely because we cannot control for attitudes, the U.S. policy and the MTCR control for capabilities and treat space launch vehicle technology as restrictively as they do ballistic missile technology.

What we can provide and what U.S. policy does support, as I noted before the House Foreign Affairs Committee 2 months ago, is provision of space launch services within the United States for any and all nations, including those in the Third World.

As for the advisability of exporting space launch vehicle technology to Third World nations such as Brazil, U.S. policy and DOD's are also clear. We have publicly opposed proposals to assist the Brazilian and Indian space launch vehicle programs, and as I testified in July of this year, to date the MTCR members have not made any transfers that would undercut this position.

As to the adequacy of existing export control procedures and regulations, I believe that we are constantly attempting to strengthen and improve them.

DOD, however, is not the lead on export case licensing and review. What DOD does review depends entirely upon what the Commerce and State Departments decide to refer to get an assessment of the military significance of a specific transfer sale.

Certainly DOD is inherently suited to make such evaluations, and we gladly do so when asked. Recently, DOD had a chance to help in the evaluation of a proposed sale of advanced furnaces to Iraq. Their lack of authority to deny these furnaces, except on nuclear grounds, focused our attention on this application.

It also helped us to recognize the need to strengthen our controls, the details about which the other witnesses, I believe, are best equipped to discuss in detail.

This concludes my brief statement.

Senator BINGAMAN. All right. Thank you very much.

Ms. Verville, we are pleased to have you here. Why don't you go right ahead?

STATEMENT OF ELIZABETH VERVILLE, DEPUTY ASSISTANT SECRETARY OF STATE, BUREAU OF POLITICAL AND MILITARY AFFAIRS, ACCOMPANIED BY CHARLES DUELFER, DIRECTOR, DEFENSE TRADE CONTROL CENTER, DEPARTMENT OF STATE

Ms. VERVILLE. Thank you very much, Mr. Chairman. I would like to introduce Charles Duelfer who is the Director of the Defense Trade Control Center at the State Department.

Senator BINGAMAN. If you would pull the microphone up a little closer so that we can all hear?

And your position is what, Mr. Duelfer?

Mr. DUELFER. Director of the Center for Defense Trade. We are in charge of the munitions licensing element of the State Department.

Senator BINGAMAN. You are the Deputy at the munitions licensing?

Mr. DUELFER. That is correct, under Dick Clark, the Assistant Secretary.

Senator BINGAMAN. All right. We are pleased to have you here.

Ms. VERVILLE. I welcome the opportunity to testify before you. My primary responsibility is missile and chemical and biological weapons, nonproliferation, and in the year that I have been working these issues they have received priority attention, both institutionally and in policy terms.

We have had this morning several questions raised about particular cases and about the adequacy of U.S. export control regulations, and I welcome the opportunity to address these topics and to answer, I think, some perhaps misconceptions, and I would be pleased to discuss answers to questions and answer specific cases.

I think it would be useful, however, to begin by making a few general remarks.

First, nonproliferation has been high on the administration's foreign policy agenda. President Bush and President Gorbachev established nonproliferation as a global priority by issuing a joint statement on May 7; both NATO and the Houston Summit of G-7 countries issued declarations committing themselves to halt nuclear, chemical, biological, and missile proliferation.

Mr. Chairman, events in the gulf not only underscore the dangers of proliferation but they also show, I believe, that a strong international consensus against proliferation exists and is becoming even stronger. The United States has played a major role in developing this consensus, and it has been the responsibility of the State Department to help create it and sustain it.

For example, since the revelations of chemical weapons at the Libyan facility, there has been a sea change in the Federal Republic of Germany's attitude shown in close, bilateral cooperation with us and the passage of legislation which we do believe has some significance.

We have also seen strong responses from other supplier states. The Soviet Union has for the first time shown strong interest in nonproliferation. Brazil, Argentina, and states of Eastern Europe have also expressed interest in nonproliferation and have begun discussions on that and their interest in strengthening export controls and other forms of cooperation in dialogue with the United States.

Attitudes simply are not what they were 5 years ago. We see this in consistent diplomatic exchanges with our partners and the steps that they are willing to take and in the measures that the Soviet Union signed up to in the nonproliferation joint statement and in how the world is reacting to the Iraq situation.

I think I also ought to say that impressions that may be given about the United States' export control failures are the source of the Iraqi crisis, are not in my view correct. It is not U.S. missiles that are in Iraq, and it is not U.S. chemical weapons that we are concerned about in Iraq.

Nevertheless, although the United States is not a major part of the proliferation supply problem, we have begun a review, as my Commerce Department colleague has stated, of our own laws, regulations, and policies on nonproliferation.

Mr. Chairman, this began prior to the Iraqi crisis. Prior to the Iraqi invasion of Kuwait the Department of State requested and formally began interagency discussions on tightening export controls to include nonproliferation based foreign policy controls.

This process has not yet been completed, but among the measures that we are seeking to implement in our enhanced proliferation control initiative are a new category of foreign policy controls focusing on projects and countries of proliferation concern requiring licenses for an expanded list of goods useful for chemical and biological weapons development; permitting denial of any item now requiring a license to any end user engaged in missile or chemical or biological weapons proliferation or where there is a risk of diversion to such activities; and requiring a license for the export of any item which the exporter knows or has reason to know is to be used in missile or chemical or biological weapons development.

This would be comparable to the end-use controls now used to combat nuclear proliferation. We believe that such steps need to be taken, but not only to block U.S. exports from going to different countries and projects. They are also needed so the United States can continue to take the lead in building up the existing international consensus to establish such effective controls on a multilateral basis.

We have been working energetically with our allies for many months to establish a basis for such concerted action. We have significantly expanded the MTCR in the last year and enhanced the importance of its guidelines as an international standard by our dialogues with Third World countries, based on the guidelines of the MTCR.

Partners in the MTCR are now reviewing the control annex for the first time to ensure that it contains all items of concern and is up to date.

In the Australia group we have broadened the controls on chemical precursors. We have taken measures to address the problem of CW equipment and expanded the Regime's focus to include BW.

I think both on the domestic and the international front we can take some satisfaction. Domestically, while we need to work on export controls and we are, we have succeeded in a major objective. The United States continues not to be the source of technology and the proliferation that we are concerned about in a major way, and on the international front, our efforts are bearing fruit to forge a growing international consensus in favor of strong and concerted actions to prevent further proliferation of these weapons.

Thank you.

OPENING UP EXPORTS TO EUROPE INCREASES RISK OF TECHNOLOGY
REACHING THIRD WORLD COUNTRIES

Senator BINGAMAN. Thank you very much. Let me ask a general question here which seems to run through here. Maybe you folks can correct me on this.

It seems that we have two things going on. We have a loosening of the East-West controls and permitting of more and more technology to flow to the Soviet Union and the Eastern European countries as part of that.

And at the same time we have growing concern that we tighten controls of technology flowing to Third World countries in the so-called North-South situation.

So as East-West becomes less of a problem, North-South becomes more of a problem, and I think one of the problems that Mr. Milhollin has made in his testimony and some of the articles was that in our rush to loosen exports to Eastern Europe, in our efforts to get that done, we are dropping off the CoCom list many items that then become readily available for shipment to the Third World by countries that don't participate in the Missile Technology Control Regime.

We have a lot of countries that are getting technology or becoming eligible to receive technology in the East-West arrangement which are not participants in the Missile Technology Control Regime.

I would like to ask each of the witnesses—why don't we start with you, Mr. Sokolski. See if you think that is accurately describing part of what is going on and how we fix it, if that is part of the problem.

Mr. SOKOLSKI. I believe your characterization is fundamentally correct, and what we at the Defense Department have been doing to make sure that we don't loosen our East-West trade at the detri-

ment of proliferation is to alert the other agencies as soon as possible of other items on the CoCom list that are of proliferation concern to make sure that those are placed under national controls by CoCom members and by our own government so that they do not find their way going to the East bloc and then not being licensed with a transfer.

I believe that we are doing a reasonable job in that regard. I believe that we need to keep focused on it.

Senator BINGAMAN. Let me ask you to spell your name. I didn't get it all when you said it before.

Mr. LEMUNYON. L-e capital M-u-n-y-o-n.

Senator BINGAMAN. And your position is in the Department of Commerce?

Mr. LEMUNYON. Deputy Assistant Secretary for Export Administration.

Senator BINGAMAN. Mr. LeMunyon, you indicated that you are satisfied that the list of items that you are agreeing to take off of CoCom does not include items that we want to prevent going to Third World countries under proliferation. Did I understand you correctly?

Mr. LEMUNYON. The items that were controlled for proliferation purposes prior to the CoCom changes remain on the list that the Commerce Department maintains. Obviously, the target group of countries has changed. We are no longer controlling them to the Soviet Union and their allies.

Senator BINGAMAN. The items that were there are still there?

Mr. LEMUNYON. Right, but the focus of who we are trying to keep them from has changed. In the context of establishing or of revising our controls in July, we established a new target list of countries, a list of 36 in our regulations, that are of concern for a variety of reasons, and exports to those countries directly from the United States do require a license. If there is a problem, obviously we will deny it. Reexports of controlled U.S. items from any country to those destinations without a U.S. export license is a violation of the law.

THE MISSILE TECHNOLOGY CONTROL ANNEX LIST NEEDS TO BE UPDATED

Senator BINGAMAN. When we entered into this Missile Technology Control Regime or agreed to participate in that, that was 1987?

Mr. LEMUNYON. That was established in 1987.

Senator BINGAMAN. And at that time a so-called annex was arrived at which contained those technologies that—and we were agreeing with these other countries that we would not export, as I understand it.

Mr. LEMUNYON. That is correct.

Senator BINGAMAN. Am I correct that we have not updated that since 1987?

Mr. LEMUNYON. That annex, and I would defer to my colleague from the Department of State, but I believe it is true that annex was established in 1987 and has not changed. But I think as we have both indicated, at the July meeting the members agreed to look at the annex to make sure that it is complete and accurate. There is a technical meeting of these countries scheduled in a few

months to compare notes and to see if any changes need to be made.

One of the accomplishments that we had at the July meeting was to examine each member country's export control regulations. We placed our list on the table. The other countries did, too, to make sure that at least we were interpreting the existing annex the same way. Frankly, we found that there were some differences. Fortunately, now we are all licensing the same items.

Senator BINGAMAN. Let me give a view, and let you folks respond. But it seems to me that we are talking about technology which is fast changing and I don't understand how we could expect a list drawn up in 1987 to be appropriate and adequate to the problems of 1990.

In light of what we are trying to control here, it would seem to me that the list of technologies to be controlled would have to be reviewed probably on an annual basis, but even more likely on a twice a year basis if you were going to have the thing be useful.

Am I wrong in thinking that this thing should be updated every 6 months?

Ms. Verville.

Ms. VERVILLE. Thank you, Mr. Chairman. I would like to touch first on the question that you raised just a moment ago to which my other colleagues responded.

I think the policy of maintaining proliferation controls on those CoCom items which merit that, or instituting special proliferation controls on the controlled CoCom items, is quite clear that the policy is to not let items of proliferation concern which may have been on the CoCom list go uncontrolled, and I think that we are looking at the East European situation.

My Commerce Department colleague can correct me if I am wrong, but I don't think that those items will flow to Eastern Europe until we are satisfied that adequate controls are in place. I think the policy is clear. Those items that have been controlled and should remain controlled should not slip through the cracks, and steps are being taken to assure that.

On the question of the MTCR annex, the partners were adamant at the July meeting in Ottawa, to which I led the U.S. delegation; they clearly are concerned that the annex remain up to date and current, and they created a technical group to review the annex for this purpose.

The organization is only 3 years old. This was done this July. The group is going to meet in January prior to the next full meeting of the partners to make recommendations to the partners.

Senator BINGAMAN. In July?

Ms. VERVILLE. In July there was—

Senator BINGAMAN. I know that there was a meeting in Montreal, but you say they are going to meet again in July?

Ms. VERVILLE. January.

Senator BINGAMAN. OK. I misunderstood you.

Ms. VERVILLE. They are going to meet in January to review the results of each country's internal study and to make recommendations to the MTCR partners at the next partners meeting which should occur soon thereafter for the purpose of making sure that the annex is up to date.

Senator BINGAMAN. Let me just interrupt a minute. It is universally agreed that it is not up to date; is that right?

Ms. VERVILLE. No, it is not universally agreed that it is not up to date, but the partners recognize that as of now it is 3 years old.

Senator BINGAMAN. Is it our position that it is up to date?

Ms. VERVILLE. That it is an appropriate time to review it and make sure that it is up to date.

Senator BINGAMAN. Is it our position that it is up to date? Is that our government's position?

Ms. VERVILLE. Our government is reviewing it now.

Senator BINGAMAN. So we don't know?

Ms. VERVILLE. To determine if it is up to date. There may be items that we think should be added. We are looking and working on that now.

Senator BINGAMAN. Is the missile casing case discussed earlier an example where it had not been—the Missile Technology Control Regime annex had not been updated or expanded to take into account production or process technologies and therefore—is that an example of a problem area that could have been fixed had we had a more expanded, updated list?

Ms. VERVILLE. I am not sure whether something like providing a service of this nature for an item that belongs to another country is something that we would have considered in advance ought to be put on the list, on the MTCR annex list. The process which was performed is not an MTCR annex item.

Senator BINGAMAN. But you don't think it would be?

Ms. VERVILLE. I don't know what conclusion we will reach about processes and about services, but I think that it is a tremendously difficult problem in a fast developing technological world to have lists that are up to date at every moment because I think we are talking not only about high-technology items but we are talking about—we are talking about very simple things, low-technology items, and this is one reason why in this enhanced proliferation control program that I outlined a few moments ago, we are seeking to have generic controls focused on end users so that, for example, tires or any kind of item that might be going to assist a project of concern could be the subject of controls.

Senator BINGAMAN. Let me interrupt you long enough to let Senator Gore make a statement. He needs to leave here in a few minutes.

Senator GORE. Mr. Chairman, I have another meeting that I have to depart for.

I want to thank the witnesses for the statements that I have heard this morning.

Again, I commend you for convening this and pursuing it. I think it is obvious, and I will say this in closing, it is obvious that in the years ahead the still accelerating scientific and technological revolution will continue to produce technologies that have military applications, and if we are to survive, we are going to have to find better ways to control the transfer of military technologies to unstable regimes willing and able to use those technologies in destructive ways.

So that is why I think this hearing is particularly important.

Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you very much for being here.

Let me ask Mr. Sokolski to comment, if you would, on this particular issue of whether we ought to be updating this annex on a very regular basis, or whether we can continue to let it go for 3 years unattended.

Mr. SOKOLSKI. The short answer is yes.

Senator BINGAMAN. Yes, we should—

Mr. SOKOLSKI. We should be updating it, but the longer answer is, I think Liz Verville made the correct point, that you need to do more because the issue isn't simply updating. There are some items that, frankly, need to go on there.

The one candidate, for example, might be carbon, carbon fibers, which are very important for reentry end strength for missiles which is not on there.

But I don't think that is what we need to do simply—the Defense Department is chairing an interagency effort to amplify what is meant by the items on the annex.

For example, production facilities are not to be exported until further notice. What is meant by production facilities? Well, we need to spell that out. Much of the annex needs to be detailed so that everyone is in agreement about what it means, and you can reach a good deal of specific technology by spelling out what is meant by the general terms. That is what is going on now, and that is what the MTCR technical groups will be doing, and it was at the United States' lead that that process is underway.

So it isn't simply updating as much as it is amplifying. We need both.

THE URGENCY IN UPDATING THE MTCR ANNEX LIST

Senator BINGAMAN. It seems to me that—to move on to another question—but it seems to me that there is no real sense of urgency about getting all of this done.

Mr. SOKOLSKI. I think there is a sense of urgency. I know that the Defense, State, and Commerce Departments have been pushing hard to get regular technical meetings.

Senator BINGAMAN. Among themselves?

Mr. SOKOLSKI. Of the MTCR.

Senator BINGAMAN. How often do Defense and State and Commerce meet themselves to work out agreement on what should be on this list?

Mr. SOKOLSKI. Right now the DOD chaired interagency group is meeting on a regular basis to get done so that we will be ready for the next meeting and have a list that we can go and present to the other MTCR members, saying, "Look, this is our best shot at amplification, and this is what we want everybody else to be doing."

Senator BINGAMAN. You are thinking that will be presented in January? And when do we expect that the member countries will once again meet so that they can consider what the technical group comes up with?

Mr. SOKOLSKI. Right afterward. The idea is to have the technical meetings at a regular clip. I know the Commerce Department has suggested four times a year. Defense is always eager to help, but we need to have the technical group meet regularly so that the ple-

nary can consider the recommendations and adopt them, and I believe that there will be a plenary meeting shortly after the technical meeting in a different location. I think the technical meeting is going to go on—where is it, in Germany?

Ms. VERVILLE. In Germany.

Mr. SOKOLSKI. And we will have a plenary meeting in Japan shortly thereafter so that they can consider that work.

THE MEMBERSHIP OF THE MTCR

Senator BINGAMAN. Let me ask about the issue of who all participates in this. It seems to me there are some major countries that are not participating, and that may be part of our problem here, too.

Sweden, Austria, Switzerland, Taiwan, and South Korea, those are all major industrial countries at this point, and to my knowledge they don't participate in the Missile Technology Control Regime. Am I wrong?

Ms. VERVILLE. These countries are not members at the present time. Some of them are—have been approached about possible membership, have expressed interest in membership. Others have said that as a matter of national export control policy they have instituted controls and have policies that are consistent with the MTCR, but they do not wish to have formal association; and others we have a less advanced bilateral dialogue with.

But I think it is fair to say that with all of the countries you mentioned our concern about the proliferation of missiles and missile technology has been a subject of serious discussion and that in the year in which I have been working on this subject we have had some progress.

Expansion of the MTCR has been a high-level priority of the organization—

Senator BINGAMAN. Of which organization; of the MTCR itself?

Ms. VERVILLE. And it has almost doubled its membership in the past year, and I think that I can also say that in the past year its commitment to pursue nonproliferation with urgency has increased markedly.

The first MTCR meeting that I attended was a year ago December, and there was very little institutionalization even to the point of some reluctance to have a technical meeting or a technical group. But now the group is not only underway but the partners, I think, do have a sense of urgency, particularly recognizing the need for vigilance with the decontrols in CoCom.

So these issues were high on the agenda last July, and I think that the partners recognize that they have urgent business to do and are proceeding to do it.

Senator BINGAMAN. Has our government urged the countries that I have listed, those five countries, to join: Sweden, Austria, Switzerland, Taiwan, and South Korea?

Ms. VERVILLE. We have certainly urged them all to observe the MTCR guidelines, either as a matter of national policy or to join.

Sweden, for example, has adopted the annex as part of its national export controls, but is not interested in formal association.

I would note that the MTCR is a group for coordination of export controls and missile policies. It is not a binding international agreement, and I think we welcomed Sweden's action and urge other countries to take similar action. We think if they do, even if they don't have formal association with the MTCR, we will have done a great deal to enhance the building of an international consensus and standard, based on the guidelines of the MTCR, and that is what we are seeking to do.

Senator BINGAMAN. I have trouble seeing why it is not in our interest to see all these countries join. It is one thing for them to say, "We don't want to join. We would like to just set up our own rules and try to follow your lead." That is certainly better than nothing, but it is certainly not the same as having them participate actively in trying to deal with this problem, and I would hope that we would urge them.

Ms. VERVILLE. If I might just answer that?

Senator BINGAMAN. Surely.

Ms. VERVILLE. I think that in the past the MTCR has been viewed as kind of a Western suppliers club, and some countries have not wanted to have formal association. We have made significant progress, I think, in broadening the image of the MTCR in the past year.

We have had an intense dialogue with the Soviet Union. The Soviet Union has stated that it will observe the MTCR guidelines. We have a statement coming out of the summit in May, and we have been pursuing the idea of formal association of the Soviet Union.

I think that over time, maybe not such distant time, we may be seeing a broader membership in the MTCR. I understand the point that you are making, and certainly we do have it in mind.

THE ISSUE OF ROCKET MOTOR CASINGS

Senator BINGAMAN. Let me ask you, Ms. Verville, about the casings case. Mr. Milhollin said that his view, his understanding was that the agreement to go ahead and license the first seven of these casings was just a mistake or that would be the position that the Department of State takes. Is that your position?

Ms. VERVILLE. No, that is not the position taken by the Department of State. If I may just describe the case and what happened and what our position is, I would like to do that at this time.

The seven rocket motor casings in question were manufactured in Brazil for use in that company's space launch vehicle program. When assembled, these casings would form a single space launch vehicle. In October 1989, the Brazilian Embassy applied for a license to permit a total of 18 casings to be heat treated in the United States and then reexported to Brazil.

A license was granted by the Defense Trade Control Center based on a judgment that the application did not request the provision to resell any of U.S. origin hardware or technology that was prohibited by U.S. law or policy, including the MTCR.

When it was brought to the attention of the interagency community that a license had been issued, a review of the case was initiated. While this review was underway it was learned that the heat

treatment on the initial shipment of the seven casings had been completed. This presented the administration with a dilemma: to return to Brazil its property, recognizing that the items would be used in a space launch vehicle; or to revoke the original license and prevent Brazil from removing the casings from the United States.

Many considerations entered into the review of the case. The Brazilians had acted in good faith, applying for a license to allow the heat treatment of the casings to take place, and there was no procedural or factual irregularity in the granting of that license. The casings remained the property of Brazil, and we had no legal authority to seize them without compensation.

There was no desire to create a serious problem in our bilateral relations with Brazil, particularly as we were urging Brazil at the time of this review to abide by the sanctions against Iraq.

The seven casings were sufficient to assemble no more than one SLV, and the casings will be expended when launched. No transfer of technology or equipment was involved in the return of the casings to Brazil. There was no evidence of a risk of transfer of the casings to any Third World country, in particular to Iraq.

These factors contributed to the decision to return the seven heat treated casings to the Brazilians. The review also found that there was general agreement that it would be unwise in principle to proceed with the treatment of the additional casings. These decisions were confirmed at a very high level in our government. Although neither technology nor hardware transfer is involved, we do want to avoid even the appearance of supporting development of technology that could be used for missiles since flight testing of the motor casings could validate other Brazilian acquired rocket technology.

However, we determined that it was improbable that the seven rocket motor casings could be reexported from Brazil or diverted to any other end use. This is because the infrastructure for using these motor casings now exists only in Brazil.

I might add that we have pressed the Brazilians very hard on both proliferation issues and on arms exports in general. The new government of President Colar has made clear that Brazil will not export ballistic missiles and their technology. A decision to revoke previously granted export licenses would have produced an understandably strong reaction in Brazil, undercutting those, including their President, who are willing to support constructive efforts against missile proliferation and who seek a more cooperative relationship with the United States.

When the President of Brazil visits the United States next week, we will use the opportunity to further strengthen our nonproliferation objectives.

In sum, we do not believe that this episode compromised U.S. efforts in proliferation control or other areas. Nevertheless, we are working to prevent a recurrence of a similar situation.

I would add, Mr. Chairman, that the proliferation control initiative which I mentioned earlier will be of significant help in catching items such as this, but even items that we cannot think of if you tried that might occur in the future and go not to even a program such as this but to even—to a project of actual serious concern.

Thank you.

Senator BINGAMAN. Your statement about why the decision was made to go forward assumed that the original license had been granted.

Ms. VERVILLE. That is correct. It was.

Senator BINGAMAN. My question was, why was the granting of the original—was the granting of the original license a mistake? If you had to do that again, would you have granted the original license?

Ms. VERVILLE. The granting of the original license occurred on the basis of the policies and the laws that were in effect. It was not the provision of hardware, and it was not the provision of technology, and therefore the license was granted and there were no irregularities in its being granted. It was perfectly consistent with U.S. policy.

It was a situation in which something that looking at—looking at it now in hindsight, and after the event, we have determined we do not want to do in the future so I would not characterize it as a mistake. I would say that our policy has evolved. Our policy has evolved because an item that was not considered earlier came to be an issue and we responded to it.

Senator BINGAMAN. Was there consultation with other agencies before that original license was granted?

Ms. VERVILLE. I think I would like to call on Mr. Duelfer whose office was involved.

Mr. DUELFER. The heat treatment of the rocket bodies is not a high-technology or sophisticated process. Nothing which we imparted to the rocket bodies was something which the Brazilians did not already know or know how to do. It was a question of whether they had the facility to cook these things according to a certain scale.

So when the licensing officer reviewed this case, he saw no export of technology or equipment having to do with missile related hardware.

I think it draws attention to where you draw the line in terms of support to a potential proliferation problem. As has been mentioned, if you export screws or wire, you know, potentially that will aid a proliferating country.

Indeed, the licensing process worked the way it should, but this became a symbol, if you will, because it said that we allowed those to go out of the country. But in the future we will not continue that process.

Senator BINGAMAN. Getting back to my question, did State consult with any other agency before deciding to grant the original license?

Mr. DUELFER. Before granting the original license, I do not think that the working level parties in either of the other agencies, either Commerce or Defense, were consulted.

Senator BINGAMAN. Let me ask Mr. Sokolski; is it your view that the granting of this license for these seven casings was something that occurred as it should have or should the Department of Defense have been consulted?

Mr. SOKOLSKI. We believe the Department of Defense and the other agencies needed to be consulted, and when they were in the proper form, there was a call for a suspension of the license.

Senator BINGAMAN. But that was after the decision was made to grant the original license.

Mr. SOKOLSKI. That was in June.

Senator BINGAMAN. And the decision to grant the original license was when?

Mr. SOKOLSKI. I believe October.

Senator BINGAMAN. October of last year?

Mr. SOKOLSKI. Correct.

Senator BINGAMAN. So there was a period of some 8 or 9 months between the decision to grant the original license and the consultation with the Department of State?

Mr. SOKOLSKI. Correct.

Senator BINGAMAN. Between Defense and State.

Mr. SOKOLSKI. Defense, State, and the other agencies. The MTAG has all of the key agencies that review missile tech. It does precisely the kind of review that is needed. It has Commerce on it. It has the intelligence agencies. It has all of the agencies, not just Defense.

EXPORTING FURNACES TO IRAQ

Senator BINGAMAN. Let me ask about the decision that was made to go forward with the furnaces. I guess that hasn't been finalized, but that is a Department of Commerce decision; now, am I correct?

Mr. LEMUNYON. The decision on the furnaces is that they will not be exported to Iraq.

Senator BINGAMAN. And that is final?

Mr. LEMUNYON. That is final. We have a trade embargo with Iraq.

Senator BINGAMAN. We are sending nothing to Iraq.

Mr. LEMUNYON. That is correct.

Ms. VERVILLE. Mr. Chairman, I just want to say if I am not incorrect, I believe that decision was made prior to Iraq's invasion of Kuwait.

Mr. LEMUNYON. That is correct.

Ms. VERVILLE. That was in July.

Senator BINGAMAN. Am I correct also that Commerce initially determined to go forward with furnaces?

Mr. LEMUNYON. The Commerce Department, as I indicated earlier, will provide a detailed chronology to the subcommittee on this in writing. It was requested by the exporter that Commerce classify this particular furnace to determine whether it is on the control list that we maintain. It was our judgment that this particular furnace, due to its specifications and performance characteristics, was not on the Commerce Department control list.

However, in so notifying the exporter we indicated, as we always indicate when items are found not to be on the control list, that there are other obligations in our regulations dealing with nuclear concerns in other countries. In particular it has been our export control policy for a number of years that U.S. companies not do business with people making nuclear bombs in other countries, even to the point of not selling Scotch tape and paper clips. That is as far as we go.

When it came to our attention, and collectively to the attention of the other agencies, that in fact this end user was of concern, the company was so notified. The company, I suppose, had the option of then coming for a license which Commerce would have denied. But during that period of time, we imposed the trade embargo with Iraq. So the case is now overtaken by that.

Senator BINGAMAN. Let me ask, because I am confused here. I have a document in front of me called—on the stationery of the U.S. Department of Commerce that says, quote, “Consarc chronology,” end quote.

Mr. LEMUNYON. Right.

Senator BINGAMAN. It goes on right up through the meeting Consarc representatives had with Commerce officials on July 31 of this year, and then it says, quote, “On August 2, 1990, Consarc informed Commerce that in light of the President’s sanctions against Iraq,” quote—this was because Iraq had just invaded Kuwait, quote—“it would not proceed at that time with the license application,” quote.

Mr. LEMUNYON. Right.

Senator BINGAMAN. So that is how the thing terminated. It was not Commerce saying, “No way. We are not going to do this.”

Mr. LEMUNYON. In effect, in July, as I think, if you have the same chronology I have on the—just ahead of that, we indicated that because of concerns with the end user, the export would require a license. I think it was understood that had one been applied for, it would have been denied, but prior to the time the company came in with a license, the trade embargo with Iraq took effect.

Senator BINGAMAN. It says here on July 31 Consarc representatives met with Commerce officials to discuss their intention to submit the necessary license applications.

Mr. LEMUNYON. Right.

Senator BINGAMAN. Then they said on August 2 that they would back off because Iraq had just invaded Kuwait.

Mr. LEMUNYON. Right.

INTERAGENCY COOPERATION

Senator BINGAMAN. I guess the point I am trying to get at here, it sounds as though we may lack the necessary level of interagency cooperation that is needed to make the correct decision in a timely manner.

Is that something that any of you would agree with or disagree with, or do you think that we have excellent cooperation between the agencies now?

Mr. LEMUNYON. I think as a general statement we have excellent and increasingly good cooperation between the agencies on this particular item which—furnaces as a general category being of nuclear concern. We consult with the nuclear weapons experts here in the United States at the Department of Energy, and we continue to do that and have done that through the CoCom changes to make sure that the clear controls remain intact and are published in the accurate form.

Senator BINGAMAN. Let me ask Mr. Sokolski. You said, as I understand it, that the Department of Defense did not have any authority to deny furnaces unless it was on nuclear grounds.

Mr. SOKOLSKI. That is a little over broad, but as a practical matter the ability to deny these furnaces without going all the way to the President turned on what its application was.

I think initially most of our attention was focused on the aerospace application of the furnaces. When it became clear in my mind that that authority turned on its nuclear application, I started looking at the patent and my staff did, and we went also the Energy Department and worked with DTSAA.

Senator BINGAMAN. Can you tell me about DTSAA?

Mr. SOKOLSKI. Defense Trade and Security Agency Administration fields the licenses that State sends as a result of legal obligations to consult, but it depends in the first instance on State getting notice. In this case it was a Commerce case, and frankly, we found out about this by a tipoff to DTSAA and also in the news.

At that point we started to investigate to find out what these furnaces were, what they could do, whether there was a concern.

Senator BINGAMAN. Isn't there a problem when the Department of Defense finds out about these things by virtue of a tipoff or something in the news? I mean, shouldn't there be a better system for getting information?

Mr. SOKOLSKI. Certainly. In the motor cases I can assure you that had we learned about these earlier, just like the furnaces, we have a very different view about the significance of these things, and we would have—

Senator BINGAMAN. And your view is that those should not be exported?

Mr. SOKOLSKI. We made very clear that we did not think that those items should be exported.

Senator BINGAMAN. So if you had known about them earlier, you would have interposed an objection.

Mr. SOKOLSKI. We did when we found out in both cases.

Senator BINGAMAN. What do we need to do to get you folks informed in time that you can interpose objections in a timely manner?

Mr. SOKOLSKI. I suspect that Mr. LeMunyon is correct that the amount of cooperation is increasing and that—

Senator BINGAMAN. I am sure it is, but we are all getting older, too. [Laughter.]

Mr. LEMUNYON. If I may interject, Mr. Chairman, as I indicated earlier, there is an interagency group that meets at least twice a month to examine all missile technology cases. A separate group is focused, I believe, in statute, the Subcommittee on Nuclear Export Control, to review all nuclear export cases. They meet, I believe, no less frequently than once every 3 weeks to review respectively all missile and all nuclear applications.

Each of our agencies and others, including the intelligence community, has a seat at those tables.

Senator BINGAMAN. Why is the initial license or decision made in October with regard to these casings, and Mr. Sokolski finds out about it next June if you are meeting every 2 weeks?

Mr. DUELFER. I can comment on that since you are headed at the missile bodies. The licensing officer makes a judgment on each license which crosses his desk, whether it does meet the MTCR criteria. In this case he made a judgment that it did not, and he thought that it did, and there is agreement that this rocket body case did not, but in the cases where—then it gets reviewed by this committee. Interagency players cannot review every conceivable license.

Senator BINGAMAN. So this is one that would not be brought up at such a meeting?

Mr. DUELFER. That is correct.

Senator BINGAMAN. Let me ask—

Mr. SOKOLSKI. Excuse me. I have to disagree.

Senator BINGAMAN. Please do.

Mr. SOKOLSKI. We look in that group, we look at all items, even many things that have to be approved because they do not, in fact, accede MTCR thresholds, and in fact that license eventually did come to the attention of the MTAG, and when it did there was a decision to suspend the license.

Senator BINGAMAN. But it did not come to the attention of MTAG? What does that stand for?

Mr. SOKOLSKI. Missile Technology Advisory Group.

Senator BINGAMAN. It did not come to the attention of MTAG until June which was 8 or 9 months after the decision to grant the license had been made.

Mr. SOKOLSKI. Correct, and when the decision was made to suspend that license, it took approximately 2 or more weeks before the firm was notified to cease work.

Senator BINGAMAN. So once the decision was made, there was still a 2-week delay before the firm was notified to cease work on the casings.

Mr. SOKOLSKI. Correct.

Senator BINGAMAN. It sounds like a lot of slippage in this process. Let me ask: Does the Department of Defense have a list of cases during the last few years where the Department of Defense has raised objections, has stated clearly that they did not believe an export should occur—and then the export went ahead and occurred?

Mr. SOKOLSKI. I would have to get back to you on that.

Senator BINGAMAN. You do not know of any such cases?

Mr. SOKOLSKI. We do not as a general matter keep records of what we do and do not approve and where our counsel is taken or not.

I am sure if you had a specific set of questions and time periods, we could produce a list for the different time periods.

Senator BINGAMAN. Let's say for the last 3 years. If you could give us a list, that would be very helpful, of those cases where DOD officials have advised the Commerce Department that certain items—

Mr. SOKOLSKI. I would have to—

Senator BINGAMAN. I am not talking about in the meeting. I am saying that once Commerce had approved something for export, Defense had interposed an objection.

Mr. SOKOLSKI. I think it would be helpful if we had some delimitation because as a practical matter there are tens of thousands of cases. It you could focus on a country or something of that character, perhaps—but even then there is a question of that deliberative process of the executive.

Mr. LEMUNYON. Mr. Chairman, if I might venture an attempt to help.

Senator BINGAMAN. Sure.

Mr. LEMUNYON. Slightly over a year ago the House Foreign Affairs Committee inquired on the question of Commerce and Defense recommendations on exports to Iraq going back to 1985, wanting to look into questions of whether Commerce had licensed exports improperly or over the objections of the Department of Defense.

We were able to supply that committee with some information. I would need to talk to some of the people back in Commerce regarding the details.¹

There are, as you know, some confidentiality provisions related to disclosure of that information, but I can report to you that, as a result of the committee inquiry, and with a subsequent followup by the General Accounting Office, no errors were found. I can think of two cases dating from 1986 where it was found that the Department of Commerce licensed exports over DOD objections, but they were later reconciled in 1987 when we put the Missile Technology Control Regime into place. I think there is a letter on the record to the House Foreign Affairs Committee concurring with that assessment from the Department of Defense.

Ms. VERVILLE. Mr. Chairman, if I might add something here?

Senator BINGAMAN. Yes.

Ms. VERVILLE. I think that one can address an issue such as the rocket casings as a process issue, but I don't think it is a process issue.

There are literally thousands of license applications that come into the U.S. Government, and some of them even though they are not on lists may be discussed, but every single one cannot be discussed.

I think what is at bottom here is that the application which was not from a company but which was from a foreign government to provide a service with regard to its own—its own equipment was processed in a reasonable and normal way in full accord with the law, the regulations, and the policy that existed. We controlled equipment and technology. What was done to Brazilian property in this case was not—was not according to U.S. policy at the time controlled, and there may be many other parallels of items that are both tangible and processes that are not controlled.

I think that what has happened in the past year is that there has been an evolution of policy, and we are moving in advance of the Iraqi crisis to tighten our controls, and we are doing it in multilateral groups, and we are doing it domestically.

I think that we don't have a process problem here.

Senator BINGAMAN. Don't we have a process problem in that you don't think these casings were controlled and the Department of

¹ See submission for the hearing record beginning on p. 58.

Defense does think they were controlled, and when the Department of Defense got to comment on it, they said, "Wait. We object," so that is a process problem to an extent, isn't it, if we don't have agreement within our government as to what is controlled?

Ms. VERVILLE. I am reluctant to get into the views taken by particular agencies, but I would certainly note that the decision to go forward with the return of the seven rocket casings was taken with full interagency review, and the decision was taken at very high levels, and every individual doesn't always agree with every decision that is made, but that is the way that this decision was made.

Senator BINGAMAN. I understand that at the high levels they decided to go forward with the 7 and denied licenses to the remaining 11 because there were 18 ordered.

Ms. VERVILLE. That is correct.

Senator BINGAMAN. As I understand it, but it is difficult to reconcile to the uneducated like myself why a decision to go forward with 7 makes good sense if we are also going to deny a license to the other 11 except to say, "We have already made the decision. We don't want to back out of it," and I understand that as an explanation, but I think that what is reflected in that final conclusion is that you have one decision prevailing at the time the seven—the license for the seven was granted, and you have a different position prevailing today which indicates maybe evolution of policy, maybe lack of agreement between agencies.

Ms. VERVILLE. I think what also happens and can happen is that an item simply isn't thought about. It hasn't been there because it hasn't occurred, and this can happen both with advancing technology and it can also happen just by circumstance that some process or some item that has not been asked for before is asked for, and it hasn't made its way onto a list.

I think that hindsight is always helpful, but I think we do have a problem of generic categories that we are trying to address with the new controls that we are working on because I think, as you pointed out, Mr. Chairman, how can you keep any list totally up to date every moment?

So I think we are trying to get to a combination of strategies here to deal with what is a very difficult problem.

THE UNDERLYING POLICY ISSUES

Senator BINGAMAN. I guess there is sort of an underlying policy issue that I detect in all of this, and that is whether we should be aiding the space launch vehicle and the ICBM programs that Brazil has in place, and I guess you are saying that—I pick it up that the Department of Defense thinks we should not be aiding that space launch vehicle, ICBM program, and State thinks we should, so someone at a high level in government said, "We will split the difference and give them seven casings and not more."

Is that basically what happened?

Ms. VERVILLE. I don't think that is what happened at all. I think what happened is that a license was granted under policies that were certainly well known to all agencies and agreed. It was known what was on the list. This was something that had not occurred before, and when it was reviewed it was determined that

items which were the property of Brazil and which had gone through a process which had been completed pursuant to an application made in good faith by Brazil, was something that we were not going to stop. We were not going to seize the property of Brazil and refuse to return it. We could not retreat or untreat these items.

At the same time, looking at the remaining ones, although a license had previously been granted, we determined not to go forward because we did not want even the appearance that we might indirectly be aiding.

If I could answer the second part of the question, the Department of State certainly supports and fully supports the present policy regarding foreign space launch vehicle programs. We don't categorically—U.S. policy doesn't categorically prohibit assistance to foreign space programs, and the MTCR guidelines are not designed to impede national space programs.

Our aim, however, is to prevent transfers that carry a risk of material contribution to ballistic missiles development, and our policy decisions in this field have been marked by restraint in the exporting technology that contributes or might contribute to foreign SLB programs and missile programs. That restraint remains in force. Our policy antagonizes countries such as Brazil and India, and it is also not adhered to in as pure a form by our other MTCR partners.

Our policy is currently under review in government to ensure that it is up to date and it is valid, but the State Department does support the administration's policy.

Senator BINGAMAN. Is that consistent with the policy you read, Mr. Sokolski?

Mr. SOKOLSKI. It was because of that policy that Defense disagreed with State in the disposition of motor casings that are category 2 items. Although the service was not covered, the casings that left were finished rocket motors, and it was because of that and because of our consistent opposition to assisting the Brazilian BLS program that we found that to be inconsistent.

Now, when it became clear that the rocket motor casings had, in fact, been hardened, that presented a new reality, and that is why there was interagency agreement on the final decision, but prior to that, many weeks prior to that, we had protested and made clear our concerns given existing policy that this particular license should not have been granted and should be revamped.

Senator BINGAMAN. Let me ask Mr. LeMunyon to respond to Mr. Milhollin's statement that you are the wrong people to be in charge of this, that you have both a responsibility for promoting exports and for denying exports, and that those functions should better be separated, and that a logical thing to do would be to leave you with the export promotion role but not the export denial role. How do you respond to that?

Mr. LEMUNYON. The issue is not a new one, and, in fact, in the early 1980's leading up to the amendments in 1985 to the Export Administration Act, Congress wrestled with that question. As a result of its consideration, Congress separated the export control functions in the Department of Commerce from the trade promotion functions.

We at one time were all under the International Trade Administration. A new Bureau of Export Administration was created whose sole purpose is trade control, not trade promotion, and BEA is the focal point for the licenses coming in and licenses going out.

Obviously, as we have indicated today, where there is expertise in other agencies, Energy, Defense, and elsewhere, we try to bring that expertise to bear as quickly as possible in one place so that licensing decisions can be made.

But it is not a new issue, and I think that Congress satisfactorily addressed it in statute.

COULD TECHNOLOGY TRANSFER BE HANDLED BY A COCOM-TYPE ORGANIZATION?

Senator BINGAMAN. Let me ask each of you that would like to, to comment on the suggestion that we need something akin to a CoCom to deal with this problem of technology transfer between North and South; that, in fact, we don't have anybody whose full-time job—we don't have an organization whose full-time job it is to communicate among the countries that are trying to accomplish this restriction and restraint on technology, and that something like that has to occur if we are going to seriously deal with this problem.

Mr. Sokolski, do you have a view on that?

Mr. SOKOLSKI. I would like to defer to State on that diplomatic issue and then perhaps comment, but I believe that State's views and Defense's views may be similar, and I would prefer to have the diplomatic lead.

Senator BINGAMAN. Ms. Verville, did you have a position on whether we should be urging the allies to join with us in something akin to CoCom to deal with North-South technology transfer?

Ms. VERVILLE. Mr. Chairman, it is an interesting question that you pose. Of course, the different proliferation concerns that we have—nuclear, chemical, and missile—start from different legal bases and different assumptions.

However, there certainly is extensive expertise in CoCom itself that has developed over the years, and I think we are considering now whether there may be ways that we can draw on it to be helpful in our nonproliferation exercises.

We do, however, have different organizations that are already established. We are working within them now to strengthen them, to strengthen not only the export control systems that they have but to strengthen their effectiveness and to expand their membership so that it is not simply a North-South problem but really a problem of the world against proliferators, and I think that we now have, certainly with Iraq, worldwide sanctions—which is a major achievement, and I think that in terms of structures for the future we are looking at the problem. We are looking to see whether there is anything more or better that can be done structurally.

But as the avenue of first attack, so to speak, we are working very hard to strengthen each of the organizations that deal with proliferation and to branch out to many Third World countries to try and build truly international effective standards.

Senator BINGAMAN. I guess I understand your answer to be that no, our government is not urging our allies to establish anything like a CoCom arrangement to facilitate the interruption of technology flow between North and South.

Ms. VERVILLE. Well, I think we are considering whether anything further of a structural nature needs to be done, but in working to strengthen the groups we are, as we have mentioned in the MTCR, we are having technical groups where we are having more frequent communication, and I think that we are working to build these particular organizations to make them more effective, and if that is CoCom-like—I am not sure what that phrase means—I am—CoCom—

Senator BINGAMAN. There is no contemplation that you are aware of in our government that we should have a permanent office or organization whose job it is to coordinate our activities with other countries in this area?

Ms. VERVILLE. I think we are, as I said, working in these organizations to institutionalize them further. They now both have what could be called permanent secretariats for the first time, and there are easy repositories in each of the organizations for centralization of information and for ensuring closer coordination, and I think the question of whether we should use CoCom or have a CoCom-like organization is, I should say, just being considered, and that we have not formed any definitive views on the subject.

Senator BINGAMAN. Mr. Sokolski, Mr. LeMunyon, either one of you? Mr. Sokolski first.

Mr. SOKOLSKI. I think what Ms. Verville is pointing to is an important point which is the CoCom exercise had a very clear idea of what the problem was and what the problem destinations were. Some of the problems with proliferate nations are a lot more sensitive. They include some friends of ours. Some of the proliferate nations are not, clearly, potential adversaries, but indeed some of them are actually friendly if not allies. That is what is of concern is that we not take CoCom in, simply end destinations. The concern of doing that is that it might weaken our ability to strengthen these new organizations to get them to a point where they can perform like CoCom.

So the reason that we are considering these issues is because there is attention. What we need to do, and I think what Ms. Verville was emphasizing, was the need to strengthen quickly and purposefully the proliferation organization so that they do operate as efficiently as possible, much like CoCom does with its more direct tasks.

That said, the proposal to actually use CoCom is apparently being considered.

Senator BINGAMAN. It seems hard to use CoCom. CoCom was set up to keep technology from going to the Soviet Union, primarily, and Eastern Europe, and now we are talking about instituting an effective mechanism which presumably the Soviet Union and Eastern Europe need to participate in in order for it to be effective, so I don't know how there is anything left of CoCom's original mission.

If you get them all in there and say, "OK, we have another problem"—so I really wonder if you can take an organization set up for

one purpose and turn it around 180 degrees and say, "OK. That job is done. Let's do something different."

Mr. SOKOLSKI. That and the items that are being decontrolled from CoCom are precisely the ones that need to be controlled in these other groups so there are tensions.

Ms. VERVILLE. But we also need to consider whether the kinds of things that it did and does and will do in the future are the kinds of things that are directly helpful in the proliferation area, and do we need a new organization or do we need to strengthen the ones we have? Those are the kinds of issues that we are looking at, not necessarily directly using CoCom, but when you say CoCom-like, are there functions that it has carried out that could be helpful, that could be useful, and I think that we are going to be looking at those, at those things, as we work very hard to strengthen the organizations that now exist and that are, in fact, expanding and improving.

Senator BINGAMAN. Mr. LeMunyon, did you have a comment on this?

Mr. LEMUNYON. I think your idea of just a moment ago is the real issue. It would be awkward to have the Soviets at the table at CoCom while we are discussing what we want to be selling to them and what we shouldn't be selling to them. I think, separate from that, the issue of combining activities like the Australia group, the missile tech group, maybe other countries that participate in other areas, is something that is certainly not imminent, but my own view is probably coming someday if for no other reason that those of us in this business in the international community keep showing up at different meetings around the world, talking in one case in Ottawa about missiles, another case in Australia about chemicals. We wonder over dinner a lot that if we had just one big group, we wouldn't have to go to so many meetings.

And so if no other reason, this practical reason, I have a feeling that day is coming. But the real concern, or the real issue, is that some of the countries that have agreed to participate in chemical controls are less willing to participate today on missile controls. You have other countries doing a different thing on nuclear controls; still yet another group in CoCom. So it is rounding up all these countries and getting them to participate in all of these controls that would be the problem.

I think my view would be to make sure that the control regimes, although separate today, are effective. Increasing their effectiveness should be a higher priority rather than worrying about what the organization ought to be. That is probably something that will come but ought to be a second order priority.

CONCLUSION

Senator BINGAMAN. All right. Let me just make a short statement, and then I think that we will conclude the hearing. I want to thank everybody for testifying.

This is the first hearing that the subcommittee has held on this issue. We may well have some additional ones later in this Congress. It is clear to me that we do need to do a better job of articulating and implementing our export control policy in each of these

areas: nuclear missile technology, chemical, biological weapons technology, the proliferation of all of those into the developing world. I think CoCom has long been the principal clearinghouse to regulate the transfer of technology from West to East, and as we move to decontrol items from the CoCom list, in light of the changes in the Soviet Union and the Eastern bloc, I do think that we run the danger, the very real danger, of allowing the proliferation of destabilizing weapons in the developing world to run unchecked.

Within our own government the major control regimes, the non-proliferation treaty, Missile Technology Control Regime and the Australian group on the control of chemical and biological weapons, I think that they are all implemented through different agency mechanisms, and I feel there are varying degrees of success at that. International coordination of each of these regimes is done separately, and again with varying degrees of success, and despite the recent addition of several allies to the Missile Technology Control Regime, the annex that they are working off of has not been expanded or updated since it was first agreed to in 1987, and we don't have any real, established mechanism for regular review and consultation on that annex and that regime.

There are not multilateral enforcement mechanisms or clearinghouses for North-South proliferation controls such as we have in place with CoCom.

I hope that the administration, although there has been a strong series of statements from the administration about the problem of proliferation, I have not seen the kind of followthrough with a clear policy in this direction. I think senior level management attention is lacking. Nonproliferation policy consistently seems to take a back seat to our bilateral diplomatic concerns, most obviously in the case of Iraq, until very recently.

I hope by the time we have another hearing we can see some progress in these areas, specifically the annex to the MTCR I hope can be updated and expanded to include production equipment. There can be quarterly meetings of technical experts, and that working with the European Community, we can put in place both legislative and regulatory frameworks to deal with this proliferation of nuclear missile, chemical, and biological weapons technologies.

I do think it is an extremely important issue. It is one that we have neglected for far too long. It is too important to allow bureaucratic infighting to interfere with our ability to implement policy or to make policy, and I think it is too important for us not to show the leadership that this country is obviously called on to show, to implement international controls.

The rhetoric that we have heard from the President and the Vice President, I am sure, is sincere, but we need to work hard to ensure that it is actually implemented in practice. Again, I thank all of the witnesses. I think that we have had a useful hearing, and as we decide what additional hearings are necessary, we will undoubtedly be in touch with you and continue with this in the future.

Thank you all very much.

[Whereupon, at 12:17 p.m., the subcommittee adjourned, subject to the call of the Chair.]

[The following information was subsequently supplied for the record by Mr. LeMunyon:]



UNITED STATES DEPARTMENT OF COMMERCE
Bureau of Export Administration
Washington, D.C. 20230

CONSARC CHRONOLOGY

The following chronology sets forth the Commerce involvement in the CONSARC attempt to export furnaces to Iraq. It should be noted that it was not until July 1990 that information was obtained concerning the possibility of this equipment being used in connection with sensitive nuclear activities in Iraq. When such evidence was presented, Commerce moved immediately to ensure that no export of the furnaces would take place.

On March 16, 1989, CONSARC wrote to the Department of Commerce requesting an advisory opinion on items it proposed to ship to the Ministry of Industry and Minerals in Iraq to be used for materials research and development and to make "titanium castings to be used for medical prosthesis." CONSARC's proposed sale included general purpose induction furnaces used to melt metals at high temperature.

CONSARC did not mention in its letter any possible nuclear application. In conversations with Commerce officials, CONSARC did mention that certain metals that could be used in nuclear applications could be melted in the furnaces, even though the equipment was not large enough to be a production furnace. But CONSARC stated that there was no indication that the furnaces would be used for nuclear applications, and Commerce had no information indicating such use.

On May 6, 1989, Commerce informed CONSARC that two of the furnaces would need individual validated export licenses and that, under existing regulations, the export of the other two furnaces would not require prior government approval. All exports remained subject to regulations prohibiting exports where the exporter has reason to know that the item would be used for sensitive nuclear purposes.

On May 10, 1989, CONSARC supplied Commerce with additional technical information on the two furnaces that Commerce had stated would require licenses. This information supported CONSARC's position that no licenses were required. Again, there was no indication that the furnaces would be used in sensitive nuclear applications.

-2-

On June 19, 1989, based on the additional technical information provided by CONSARC, Commerce determined that none of the furnaces was included on the control lists for national security, foreign policy, missile proliferation, or nuclear proliferation reasons. Commerce notified CONSARC that this determination was subject to prohibitions against exports where the exporter has reason to know the item will be used for sensitive nuclear purposes. The Commerce Department has not approved and would not approve a license for sensitive nuclear uses in Iraq.

On July 14, 1989, CONSARC provided Commerce with documentation from the Iraqi end user and the Iraqi Government stating that the equipment was to be used for work in material science technology. The letter from the Iraqi Ministry of Industry and Minerals states, in part, that the furnaces would not "be used for nuclear applications."

On June 27, 1990, the Customs Service detained the CONSARC furnaces before they could be shipped to Iraq.

As indicated above, the CONSARC furnaces were not subject to U.S. controls. In addition, the Administration (based upon the assessment of the Department of Defense and Joint Chiefs of Staff) and its COCOM allies eliminated effective as of July 1, 1990 controls on all industrial furnaces, including furnaces that are more sophisticated than the CONSARC equipment.

On July 13, 1990, a Commerce engineer and special agent visited CONSARC to examine the equipment. As a result of this visit, it was reconfirmed that the furnaces did not fall within the scope of existing USG export controls. The Commerce engineer mentioned that the only reason for control would be if the items were destined for a sensitive nuclear use. CONSARC again stated that the end use was materials research and the production of medical prostheses.

During the week of July 16, 1990, interagency meetings were held to review the proposed sale of the furnaces. The State Department confirmed that the furnaces were not controlled as munitions items. Commerce pointed out that the furnaces were not controlled by Commerce regulations unless they were intended for sensitive nuclear uses. Commerce requested additional information on possible sensitive nuclear uses of the equipment in Iraq.

-3-

On July 19, 1990, the Administration obtained additional information indicating that the furnaces might be used in sensitive nuclear activities by Iraq. Commerce immediately directed that the company apply for an individual validated export license and informed the company that it could not ship the furnaces without such a license. Commerce informed Customs of this decision and asked that the furnaces not be released for export.

On July 31, 1990, CONSARC representatives met with Commerce officials to discuss their intention to submit the necessary license application. At this meeting, CONSARC repeated its contention that the intended end use of the furnaces was not related to sensitive nuclear activities.

On August 2, 1990, CONSARC informed Commerce that in light of the President's sanctions against Iraq it would not proceed at that time with the license application.

With respect to the broader issue of Commerce's licensing practices toward Iraq, consistent with Administration policy, Commerce refers two-thirds of all applications for review by Defense and State and has not approved any applications to Iraq contrary to U.S. missile and nuclear non-proliferation controls. This was recently verified by the General Accounting Office of the Congress following a review of more than four years of licensing data, the GAO noted in its conclusion that it:

...did not find that any MTCR [Missile Technology Control Regime] restricted items had been approved for the export to Iraq since the effective date of the MTCR.

Because of its concern with the proliferation of nuclear capable ballistic missiles and based on its belief that the export controls in place since 1987 needed updating, the Commerce Department, in the fall of 1989, instituted a technical review by Bureau of Export Administration engineers of the control lists. The State Department is currently discussing the list revisions with our Allies to ensure that its modernization will be carried out in a multilateral fashion.

On April 3, 1990, all export licenses to Iraq were made subject to more stringent reviews.

On August 2, 1990, all export licenses to Iraq were suspended.

Dated: September 7, 1990

ARMS TRADE AND NONPROLIFERATION

TUESDAY, APRIL 23, 1991

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON TECHNOLOGY AND NATIONAL SECURITY
OF THE JOINT ECONOMIC COMMITTEE,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:30 a.m., in room SH-216, Hart Senate Office Building, Hon. Jeff Bingaman (chairman of the subcommittee) presiding.

Present: Senator Bingaman, and Representatives Arney and Stark.

Also present: Richard F Kaufman, general counsel; and Mark Forman, professional staff member.

OPENING STATEMENT OF SENATOR BINGAMAN, CHAIRMAN

Senator BINGAMAN. Why don't we go ahead and get started. There are lots of hearings taking place in the Senate this morning, and I think our best bet is just to proceed, and if other Senators can come, we'll welcome them at that time.

This hearing is the second in a series that we began last September on issues related to the spread of sensitive technologies involving nuclear weapons, chemical and biological weapons, and missile delivery vehicles for such weapons.

In the previous hearing, we dealt mostly with U.S. and multilateral export controls on sensitive weapons technologies. That hearing confirmed the existence of considerable disarray in the export license processes and in the policies that guide them. Steps have been taken recently to improve the processes, and we'll hear testimony this morning on the adequacy of those steps.

Today we are going to broaden the inquiry somewhat to examine basic policies about nonproliferation, in addition to the function of the export control system. We want to learn more about our efforts to convince other nations to slow the spread of sensitive weapons technologies, and the priority that the administration gives to nonproliferation compared to other concerns; such as foreign policy and export promotion, including the promotion of arms sales to developing nations.

The Congressional Research Service recently completed a report at my request on our nonproliferation policies. That report states: "Strategic and economic interests have at times prevailed over nonproliferation considerations, as in the case of Pakistan and Iraq. Trade policies designed to enhance the competitiveness of U.S. business in the global marketplace can be expected to conflict with robust export control policies."

The report also finds that no strategy can be leak proof. Export controls will play a central role in this decade in order to buy time to deal with proliferation concerns, but export controls alone are clearly not sufficient.

We must also be prepared to employ incentives and sanctions, as well as arms control and diplomatic initiatives to reduce the underlying motivating factors in regional arms races.

Clearly, initiatives, some very significant ones, have been taken by this country. Of course, the United States was the first to initiate efforts to limit the spread of nuclear, chemical and biological weapons, and ballistic missiles. By far the most comprehensive controls of other nations, including some of our NATO allies, do not come close to the standards we have set.

We have led the way to multilateral arrangements, such as the Nuclear Nonproliferation Treaty, the Nuclear Suppliers Group, the Australia Group, and the Missile Technology Control Regime. That does not change the fact that our export controls appear to still lack coherence.

There are many shortcomings in the interagency coordination necessary to implement them, and the multilateral cooperation with other countries is inadequate. Too many sensitive weapons technologies have slipped through our own net and those of others, and in this business almost clearly is not good enough.

President Kennedy once warned that we faced a future in which 15 to 25 nations might have nuclear weapons. Today, I count 17 nations that have or are reported to be taking steps toward acquiring these weapons.

What needs to be of concern to us today is that the diffusion of sensitive weapons continues and may be accelerating. Our experience with Iraq should teach us how costly it can become when sensitive weapons technologies spread.

Thankfully, Iraq did not use biological or chemical weapons. But its missiles, coupled with the threat of chemical warheads, proved a horrible weapon of psychological terror. A nuclear threat in Saddam's hands obviously would have been far worse. Unless steps are taken in the near future to reverse present trends, the 1990s may become known as the decade of proliferation crises.

The first panel is made up of Richard Clarke, the Assistant Secretary for Politico-Military Affairs in the Department of State; Mr. James

LeMunyon, the Deputy Assistant Secretary for Export Administration in the Department of Commerce; and Mr. Henry Sokolski, the Deputy for Nonproliferation to the Assistant Secretary of Defense for International Security Affairs.

Let me refer also to some charts that we have had prepared—a series of charts to demonstrate different facets of the proliferation problem (see charts on following page).

All of them are based on published sources in the open literature. The reason for this is that the Government still considers much of the information about countries that have, or are in the process of acquiring, weapons of mass destruction to be classified. This strikes me as an unusual policy in light of all that has been published in the open press, but it would seem, in my view, to make sense to let everyone know exactly which countries have or are attempting to get these weapons.

The charts need to be explained. The first one is totally incomprehensible from that distance; it is very small, and I hope folks have handouts that have the chart on it. I have one here. It illustrates how many countries already have acquired weapons of mass destruction. What we have done is to take a variety of published sources and indicate each point at which one of those published public sources lists either chemical, biological, nuclear or ballistic missiles being possessed by one of the countries listed on the left-hand side of the chart.

There are a total of 37 countries listed on the chart. In a separate series of charts, we have tried to show the high incidence of transfers to Third World countries. Too many countries export too many sensitive weapons and technologies to Third World countries in order for us to depict them all on one chart or even on a limited number of charts. So what we have done is to put together several charts showing sources of ballistic missiles and technologies, and nuclear weapons and technologies to Iraq in particular.

We also have three other charts, which I'll just briefly refer to in case any of the witnesses want to refer to them, that have taken Germany as an example; because Germany has been a major supplier of sensitive technologies (see charts on following page). That is not to suggest that Germany is the only one, but there is a limit to how much we could get on a chart. It shows the extent of the countries being supplied by Germany. These charts show Third World recipients from Germany and from Communist countries, and you can see that there are a great many supplies going to these countries from Communist suppliers as well.

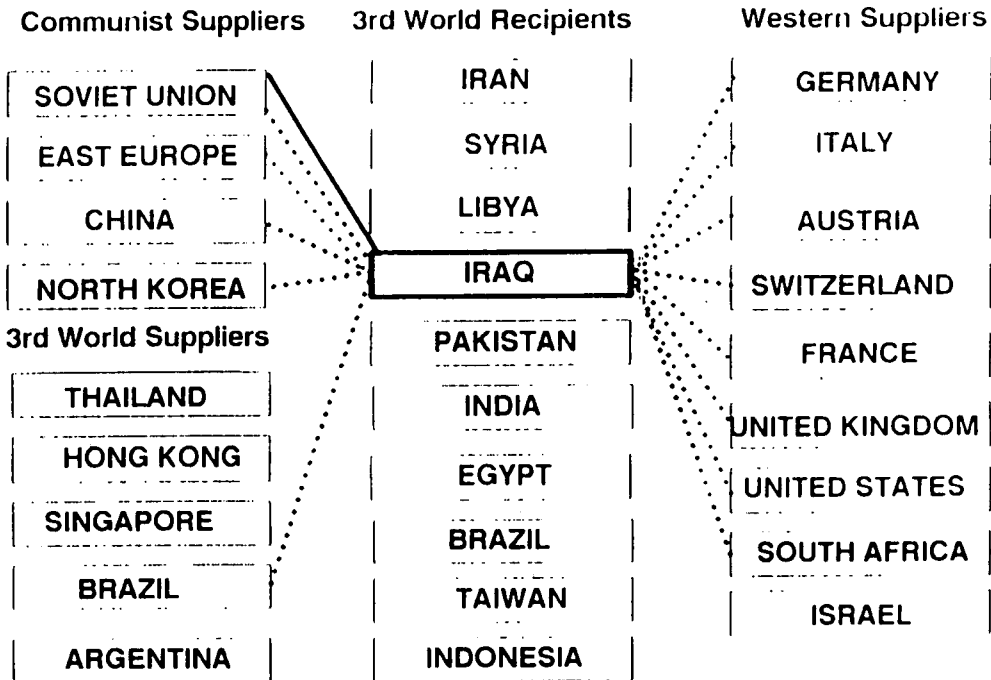
Proliferation of Unconventional Weapons

(Countries Possessing or Attempting to Acquire Weapons)

<u>Countries</u> (Sources)	<u>Chemical</u>			<u>Biological</u>			<u>Nuclear</u>		<u>Ballistic Missiles</u>		
	A	B	C	D	E	F	G	H	I	J	K
<u>Western</u>											
France	X	X					X				
Switzerland		X									
United Kingdom							X				
USA	X	X					X				
<u>Communist</u>											
China	X	X	X				X				
Cuba										X	
North Korea	X	X	X	X				X	X	X	X
South Korea		X	X						X	X	X
USSR	X	X			X	X	X				
Vietnam	X	X	X								
Yugoslavia	X										
<u>Third World</u>											
Algeria										X	X
Afghanistan		X							X	X	X
Argentina		X						X	X	X	X
Brazil								X		X	X
Burma	X	X	X								
Egypt	X	X	X						X	X	X
Ethiopia	X	X									
India			X					X	X	X	X
Indonesia	X		X							X	X
Iran	X	X	X	X				X	X	X	X
Iraq	X	X	X	X		X		X	X	X	X
Kuwait		X									X
Laos	X										X
Libya	X		X	X				X	X	X	X
Pakistan		X	X					X	X	X	X
Syria	X	X	X	X		X			X	X	X
Thailand		X	X								
Yemen									X	X	X
<u>Other</u>											
Bulgaria	X										
Czechoslovakia	X										
Hungary	X										
Israel	X	X	X					X	X	X	X

Ballistic Missiles and Technologies

(Selected Suppliers & Recipients)

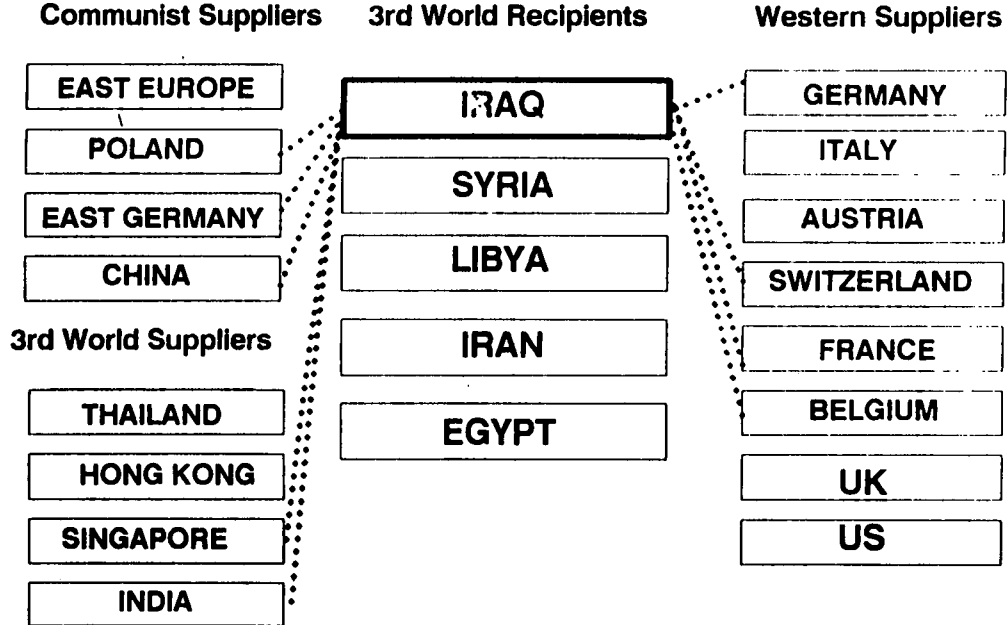


———— MISSILE TRANSFERS

- - - - - TECHNOLOGY TRANSFERS

CHEMICAL WEAPONS AND TECHNOLOGIES

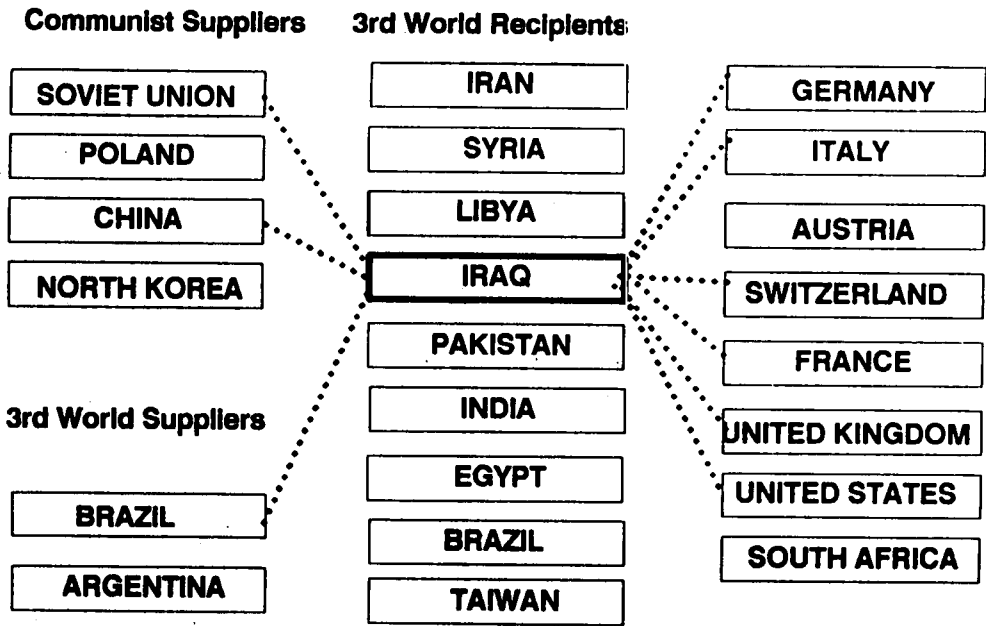
(Selected Suppliers & Recipients)



ITEMS EXPORTED BY THESE COUNTRIES INCLUDE PRODUCTION TECHNOLOGY, EQUIPMENT AND PRECURSOR CHEMICALS

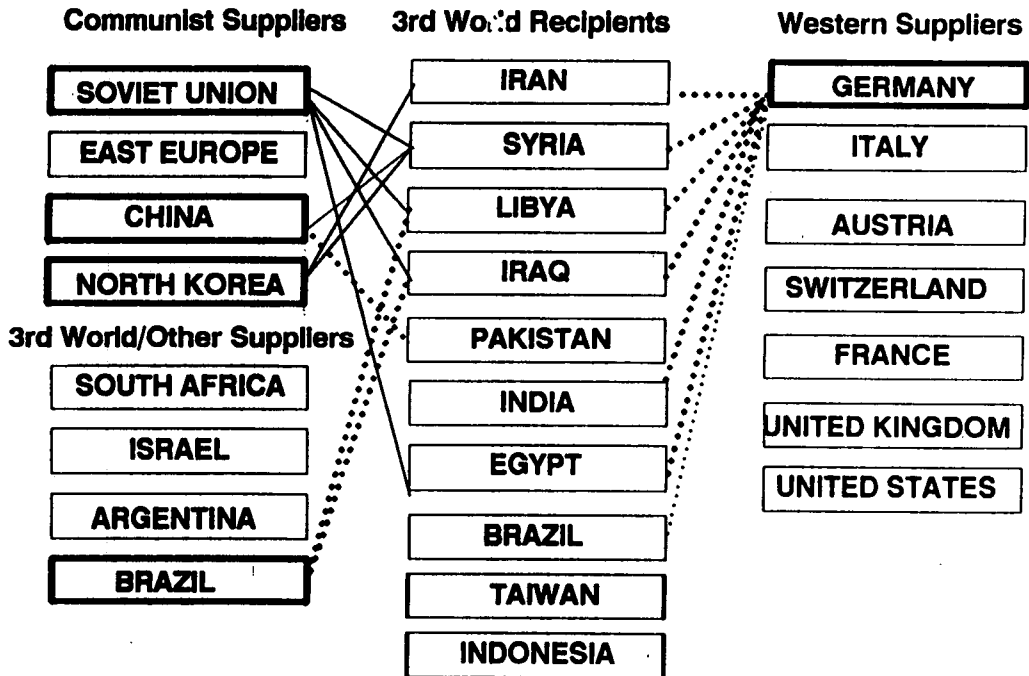
Nuclear Weapons and Technologies

(Selected Suppliers & Recipients)



Ballistic Missiles and Technologies

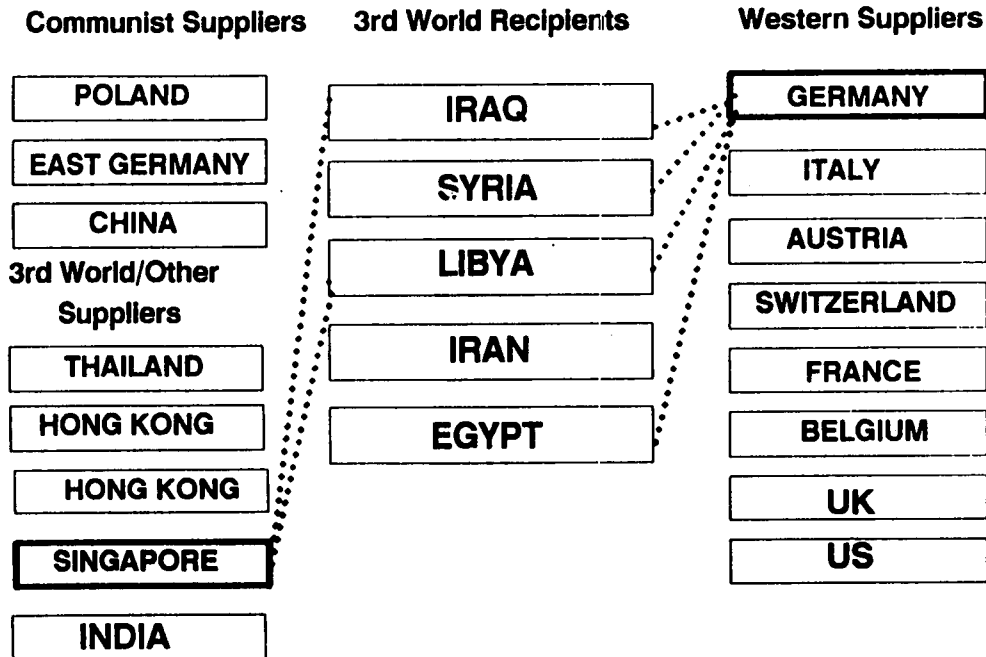
(Selected Suppliers & Recipients)



————— MISSILE TRANSFERS
- - - - - TECHNOLOGY TRANSFERS

CHEMICAL WEAPONS AND TECHNOLOGIES

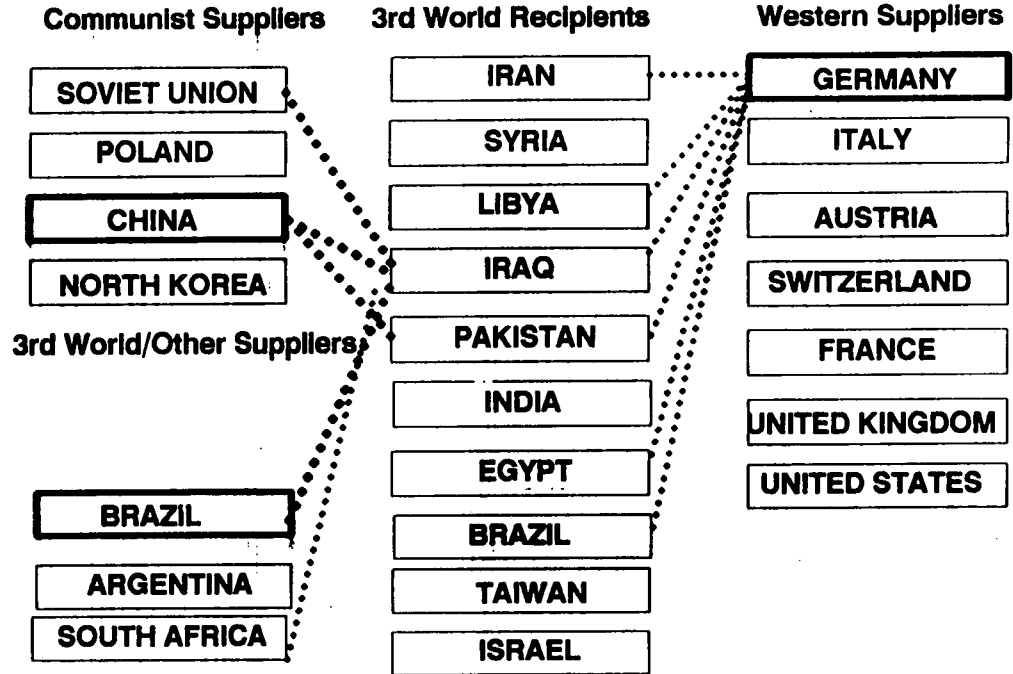
(Selected Suppliers & Recipients)



ITEMS EXPORTED BY THESE COUNTRIES INCLUDE PRODUCTION TECHNOLOGY, EQUIPMENT AND PRECURSOR CHEMICALS

Nuclear Weapons and Technologies

(Selected Suppliers & Recipients)



Senator BINGAMAN. Before I turn to Richard Clarke for his statement, why don't I see if there are any other opening statements here.

OPENING STATEMENT OF REPRESENTATIVE ARMEY

Representative ARMEY. Thank you, Mr. Chairman. I do have an opening statement, and I would like to read it.

Mr. Chairman, I want to commend you for setting up this second hearing on this important and timely topic. In the smoldering remains of the Persian Gulf war, Americans have become acutely aware of the risks to global security posed by the proliferation of weapons of mass destruction, ballistic missiles, and high-tech conventional arms. In the Republican Views of this year's Joint Economic Committee Annual Report, we noted that the global arms industry is growing exponentially and, consequently, other Saddam Husseins may emerge in this decade.

Congress and the administration have given much attention to the proliferation of nuclear, chemical, and biological weapons. These efforts have led to many control regimes aimed at stemming the flow of missile technology and the so-called dual use technologies—technologies that have commercial and military applications. The Export Administration Act and the administration's Enhanced Proliferation Control Initiative are two recent efforts to stop the flow of such technologies. More attention needs to be paid to the proliferation of conventional weapons carried out via markets that resemble used car lots and intermediaries that resemble sleazy movie characters. But before Congress reacts to recent new reports in its typical manner, there needs to be a short pause to observe the effectiveness of recent initiatives and to assess how well resources are focused on problem areas.

The United States and our allies spent some \$50 billion conducting a conventional war to liberate Kuwait, while Iraq's ballistic missiles killed innocent bystanders and the threat of chemical weapons was ever present. The Persian Gulf crisis illustrated the threat to American interests posed by the spread of modern weaponry. Mr. Chairman, I believe there are strong economic forces driving the proliferation of arms.

On the demand side, there are three factors that explain why governments, insurgents, terrorists and drug cartels want arms. First, arms are needed by governments for the legitimate purpose of self-defense, or survival, against both external and internal threats. In dictatorships, we need look no further than Iraq or many Communist countries to see how this can be abused. Second, terrorist groups and drug lords want arms as a means to achieve their illegitimate desires. Third, arms are a political tool—they represent power, and many want them for the purpose of affecting a regional balance of power. Saddam Hussein spent over \$30 billion per year trying to get his way in the Persian Gulf. It appears that dictators almost always prefer to use tanks, rather than

dialogue, to settle differences with their neighbors and their own people. With these strong demand-side forces, it is no wonder that arms industries have been born in many Third World countries at the same time the United States and Soviet Union have been reducing military exports.

On the supply side, there are five factors that ensure that a Saddam Hussein can always find someone to build a new gun. First, governments export arms in order to promote specific policy objectives. We have long supported democratic governments by sending arms to be used for self-defense, and it is in our interest to continue to do so. Second, foreign military sales can be a lucrative business, and, therefore, there are many suppliers. If a buyer wants a piece of equipment, it may be found at a company based in the United States, Germany, Argentina, Singapore, or many other countries. The global market seems constrained to under 10 suppliers only for the highest technology equipment, such as nuclear weapons or fighter aircraft. Third, economies of scale force many producers and governments to find foreign buyers in order to share overhead and start-up costs. Fourth, countries that are involved in armed conflict will often be given new weapons to determine the weapons' battlefield effectiveness—a real-life form of operational testing. Defense analysts have suggested that the Soviets did this in Afghanistan. And fifth, countries will develop an arms industry and export arms to improve their economy and balance of trade. A study of arms industries in Western and developing countries, which appeared last year in the academic journal, *Defense Economics*, reported that controls on arms sales would not have much effect on U.S. unemployment, but would cause significant unemployment problems elsewhere around the world. Hence, many countries resist such controls.

It may be clearer from the fact that our Air Force spent so much time bombing Saddam Hussein's defense industry than from this cursory summary of the economics of global arms trade that arms proliferation is a multilateral problem. Congress can pass another file cabinet full of laws to stop American exports, but that will not prevent China or others from supplying Third World despots like Saddam Hussein. For many years the U.S.-Soviet polarity provided order to the global arms trade, with one bloc forming around the United States and another around the Soviets. Many of these alignments represented the fight between democracy and communism. Now, democracy has won the ideological conflict, but fighting continues in many regions of the globe—fed by a different set of suppliers. With the spread of technology and engineering know-how around the globe, arms trading has become more complex—a special computer chip could have a greater impact than a tank.

America is on a global pedestal, the only remaining true superpower. France, Germany, and other large players in the global arms trade are ashamed of having fed arms to Saddam Hussein. We now have a unique

opportunity to pursue multilateral efforts needed to constrain the flow of weapons.

We must, however, guard against such efforts becoming an ineffective drain on national security resources. Trade controls should be pursued only to the extent that they are integrated with other components of our national military strategy. Given new congressional and administration initiatives now being implemented, I would like to hear our witnesses' views about how resources can be focused between diplomatic, intelligence, and military expenditures to efficiently protect our national interests. This makes more sense to me than trying to determine and control every company in every country trying to sell arms to every group in every other country around the globe.

Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you, Congressman Arney. I appreciate it.

Congressman Stark also has a statement he wanted to give at this time.

OPENING STATEMENT OF REPRESENTATIVE STARK

Representative STARK. Thank you, Mr. Chairman, and thank you for calling this hearing.

I would ask the Chair's permission to have my opening statement included in the record, and I will just briefly summarize my purpose.

I apologize to the subcommittee and the witnesses for not being able to attend much of this morning's hearing because professional comity requires that I pay close attention to Senator Rockefeller's testimony in the Ways and Means Committee on how to solve the health care needs of our country. Assuming that the country will survive long enough for long-term health care to be an issue, I think it's quite important that I be there.

Nuclear proliferation is perhaps the leading threat to our long-term security, Mr. Chairman, and I would like to just address a minor piece of legislation that I have introduced.

Under my proposal, if we decided, for example, that Daimler-Benz or another German company was selling centrifuge technology to Pakistan, and if we decided that that violated the Nuclear Proliferation Policy or Act of this country, it would be quite simple under the Trade Act to suggest that those companies not be allowed to sell anything to our country.

I think this would have a meritorious and quick effect on those companies. It's very difficult for us to enforce German law or law in Brazil or any other country, and I'm not sure that's what we're here for. But we are able to identify those companies that clearly violate existing nuclear proliferation laws, and I would be interested in hearing the witnesses' reaction to that during the day because this is a quick, precise, and surgical way to bring direct economic retaliation against

those people who would violate what is clearly the policy and law of this country, and not do a great economic disservice to our overall international trade.

I appreciate the Chair's indulgence, and I look forward to seeing what comments the witnesses during the day could add to this minor little piece of enforcement legislation.

Thank you.

[The written opening statement of Representative Stark follows:]

WRITTEN OPENING STATEMENT OF REPRESENTATIVE STARK

Mr. Chairman, I would like briefly to address the nuclear aspect of this important issue. With the events of recent years—the easing of East-West tensions, the liberation of Eastern Europe, and the Soviet Union's slow, even, but definite progress toward democracy and capitalism—nuclear proliferation is now the leading threat to U.S. national security.

Over the years, the United States and other Western nations have taken important steps to combat the spread of the Bomb. Nevertheless, today nine nations have nuclear weapons with more countries on the horizon. The case of Pakistan, the most recent member of the Nuclear Club, is especially troubling to me. It took Islamabad 15 years, but today they can produce enriched uranium, the key material in building nuclear weapons. We have a great deal of evidence that before the war Iraq also was following Pakistan's model. Pakistan relied heavily on foreign assistance to build the necessary facilities. Iraq too received help from Western companies, especially from Germany.

The War in the Gulf may have dealt a temporary setback to Baghdad, but they could resume their efforts and other countries, such as Iran, Syria, and Libya, could follow the same approach. It may take time 5 to 15 years, but in the history of the world, that's not much time.

Recently, I introduced legislation to help address the problem of Western companies assisting nuclear weapons programs in developing countries. My bill, H.R. 830, the Nuclear Non-Proliferation Enforcement Act, would put import sanctions on any foreign firm the President determines sold nuclear or dual-use items—without the proper safeguards—to countries of proliferation concern. For example, if a German company, such as Daimler-Benz or Degussa, sells uranium centrifuge technology to Pakistan or Iraq, then that firm would be barred from selling anything to the United States.

I am not suggesting this is the only approach. Quiet diplomacy is also an important tool in bringing our allies to tighten their export controls. But quite diplomacy didn't bring great results in the 1980s. The Germans ignored warning-after-warning. Recently, Bonn has taken some steps in the right direction. I am convinced, though, that the threat of some sort of sanction is necessary to help make these changes stick.

Unfortunately, I won't be able to say and hear all the testimony today—I have to attend hearings over with Ways and Means. But I am interested in the witnesses' reactions to my legislation. Do they think it is a useful tool in combating nuclear proliferation? If not, what other alternative besides quiet warnings that are often ignored can help get our allies to take this threat more seriously. After all, none of us wants to wake up one morning ten years from now and find Syria armed with the ultimate weapon.

Senator BINGAMAN. Thank you very much.

Mr. Clarke, thank you for being here. Why don't you go ahead with your statement in any fashion you would prefer, and then we may have a few questions of you, and then we'll turn to the other two witnesses.

**STATEMENT OF RICHARD A. CLARKE, ASSISTANT SECRETARY,
POLITICO-MILITARY AFFAIRS, DEPARTMENT OF STATE**

Mr. CLARKE. Thank you, Mr. Chairman. It's a pleasure to be here again to discuss what is one of the highest priorities the administration has, and what is, as you have said, one of the greatest threats not only to our national security, but to international stability. Now, there is the proliferation of ballistic missiles and weapons of mass destruction.

None of us who lived minute by minute through the Persian Gulf war and the attacks on three nations with ballistic missiles, none of us who spent weeks trying to get chemical protective and biological protective gear to our personnel in the theater, can have any doubts about the risks and the dangers that proliferation poses for our country and for our allies.

It is, however, not something that we have learned since the Persian Gulf war. This administration has made proliferation a priority since it came into office, and I think, Senator, we have turned the corner in many respects on the proliferation battle. I think we can now look back on 2 years of progress both nationally and internationally.

Let me, if I may, Senator, just submit the prepared statement for the record and try to summarize it briefly so we can get to the questions.

I would say within the Government we have vastly improved our own ability to deal with these issues. We needed to clean up our own house, I think, first before we could go successfully multilaterally, and we have done that.

THE PROLIFERATION PROBLEM

In the licensing process within the State Department, for example, we have doubled the number of officers working on licensing in the Defense Trade Control Office. We have put Defense Department officers and Customs enforcement officers into the State Department office that is in charge of licensing defense goods and services.

On an interagency basis, we have created for the first time a committee on proliferation, the so-called Policy Coordination Committee. And, if I may, Mr. Chairman, submit my own chart for the record, which I think has been passed out. I have a diagram of the interagency committee structure that has been created in this administration.

What is noteworthy about it, Mr. Chairman, is the way in which it incorporates the intelligence and policy community; and that in the nuclear field, the CBW and missile field, on a weekly and sometimes

daily basis, committees get together to assess the raw intelligence on proliferation that we receive from a variety of means and figure out what we should do about it.

If it's a U.S. company or a U.S. citizen that is involved, we can and do take action ourselves. If it's another country that is involved, we move to interdict that planned shipment through a variety of diplomatic means, and we've had some notable successes.

THE ENHANCED PROLIFERATION CONTROL INITIATIVE

Also, within our own government, I think perhaps the most notable advance has been the Enhanced Proliferation Control Initiative (EPCI), which the President approved last fall, which has been under development really for over a year, some of which has already gone into effect.

If I can, I would like to spend just a minute on Enhanced Proliferation Control Initiative. I think it's an example of how we can move both unilaterally and multilaterally at the same time.

We felt that in order to be effective multilaterally we had to have the best export control system in the world, and I think we can now say that we do. Those holes in the export control system that we did identify during the course of the study last year have been plugged, and we are now moving to have export controls for all destinations for all precursor chemicals, for dual use chemical and biological equipment, and for the design of chemical production plants.

We are moving for the first time to control American citizens' activities abroad in the area of missiles and chemicals; and beneath this entire set of complicated regulations, we have put a safety net that says we can go to an individual company and inform them that what they are about to do would contribute to proliferation and therefore require them to get a license that would allow us to deny the sale.

It's a complicated series of regulations. It's meant to be a web that would allow us to prevent any sale of any item going to a proliferation entity. We've now taken that series of regulations to our partners in the Australia Group on Chemicals, and to the Missile Technology Control Regime (MTCR), and urged them to adopt the same regulations. We are having some notable success. Before we made this proposal, the 19 other members of the Australia Group on Chemicals controlled very few of the 50 chemicals that were identified as likely precursors.

Following our initiative now, a majority of the members of that group control all of those chemicals, and we have news from the remaining countries that they are also moving in that direction.

I think this is an example of how we, by taking action ourselves, can show initiative and lead the way, and then work to achieve multilateral support and bring others up to our standard.

EXPORT CONTROLS IN OTHER COUNTRIES

You mentioned Germany as a problem, and Germany I think will be the first to admit that it was a problem. If, however, you were now to compare Germany's export regulations to our own, I think you would see that they are very similar. The Germans, with our help and advice, developed a very effective series of export controls and are backing them up with enforcement.

We have been able to work bilaterally with a number of countries to turn around proliferation projects. There are somewhere between six and eight missile programs around the world that we have stopped and where we are actually eliminating missiles.

The most notable example of course is Iraq where, through the United Nation's Special Commission on Weapons of Mass Destruction, we are going into Iraq in the next several weeks to identify, find, and destroy their remaining missile inventory. They informed us the other day that Iraq had 51 remaining missiles. Those missiles will be destroyed.

We have been working with a number of East European countries and have convinced three or four East European countries to destroy their missile inventories.

We have been working with Argentina on the Condor missile project, and the Argentine Government has decided to cancel that program and to destroy the parts of it that have been built. The Condor, as you know, was part of an international consortium that involved two other countries.

All in all, I would say that we are having a fair amount of success. The institutions that we have been working with, the Australia Group, the MTCR, and the Nuclear Suppliers Club, are becoming more vigorous. They are becoming more institutionalized, and that is I think, if I may say modestly, a result of U.S. leadership.

The problems are, as you have demonstrated, very significant, and they are ever expanding. But for the first time, I think we are able to stand before this committee and say that we have a system of export controls in the United States that we can be proud of, and that we are working effectively with our allies, both in the intelligence sphere and diplomatically, to stop proliferation. We have had some success, and we hope to have some more.

CONVENTIONAL ARMS SALES

Let me just say in answer to the questions that were raised about conventional arms sales, although that's not part of my prepared statement, that we are obviously concerned about the threats that conventional arms pose as well, and Iraq is a good example of what can

happen when there is an overly large, destabilizing buildup in offensive arms.

Again, I think we can be proud that we did not deliver a single U.S. weapon to Iraq; that the U.S. forces, the Coalition forces fighting Iraq did not face American weapons, and, in general, I think it can be said that the United States has not been the problem in the area of conventional arms transfers.

If you look at the major wars that have been fought in the Middle East going back into the 1950s, no nation receiving U.S. arms ever started one of those wars. We have a responsible system of deciding what arms to export, to whom we export them, and a way to monitor their status after we export them.

Mr. Chairman, let me stop there and invite your questions and enter this prepared statement into the record.

[The prepared statement of Mr. Clarke follows:]

PREPARED STATEMENT OF RICHARD A. CLARKE

Mr. Chairman, thank you for inviting me to testify before this Committee. The proliferation of missiles and nuclear, chemical, and biological weapons is a significant threat to US national security and to the vital interests of our friends and allies.

In recent years, five countries have been attacked by ballistic missiles, three of them this year. The Iraqi "triple threat" in the Gulf War -- missiles, chemical and biological weapons, along with Iraq's nuclear weapons potential -- vividly underscores the need for effective and urgent international cooperation to stem proliferation.

In the last year, I believe we have turned the corner and the tide is now running against missile proliferation.

As I will detail in this statement, we have now:

- thwarted missile projects in several countries;
- put in effect the tightest export controls in the world on missile proliferation-relevant technologies;
- greatly expanded the number of countries participating

in or adhering to international guidelines against missile related exports;

-- moved to strengthen and institutionalize the international missile export control regime;

-- begun the process of placing U.S. sanctions on those engaged in missile proliferation; and

-- reoriented our SDI program to address the missile proliferation threat through the GPALS program.

On chemical and biological weapons, we have:

-- implemented a major new initiative to strengthen U.S. CBW proliferation controls;

-- and stimulated dramatic increases in CW controls by other major supplier countries.

In the nuclear area, 26 members of the Nuclear Suppliers Group met last month to strengthen nuclear export controls. We hope that a multilateral export control arrangement on dual-use items will be completed within a year's time.

Of necessity, we have a multifaceted approach to non-proliferation. This approach includes vigorous arms control measures, encouraging regional confidence-building, export controls, multilateral supplier group efforts, focused intervention in specific cases, and sanctions.

Iraq

Let us begin with Iraq. As a result of the Gulf war, Iraq is subject to extraordinary control measures to divest it of CBW and missile capabilities and to prevent the resurgence of such capabilities or development of a nuclear weapons capability. In accordance with UN Security Council Resolution 687, stringent cease-fire conditions are being imposed on Iraq. These will include supervised destruction of Iraqi nuclear, CBW and missile capabilities and long-term monitoring of compliance. The U.S. is deeply involved in the effort to develop and implement this program. The U.S. actively participates in the Special Commission charged with overseeing compliance with the UN resolution. Inter-agency working groups of the Non-Proliferation PCC, which I chair, have been formed to deal with specific aspects of the issue, and a Special Commission Backstopping Support Office to support UN Special Commission has been set up in the Politico-Military Bureau of the Department of State. With sustained international effort,

we believe these cease-fire conditions will deal effectively with the Iraqi non-conventional threat.

Iraq is not, however, a typical case. What is possible and appropriate there is not necessarily applicable elsewhere.

In other, less dramatic ways, our non-proliferation efforts have progressed well in the months since we last appeared before this subcommittee. There is, of course, still more to be done. We are working in all areas to make non-proliferation policy work better, and we welcome the ideas and suggestions of the Congress.

Limiting Missile Proliferation

Intense U.S. non-proliferation efforts have thwarted missile projects in several countries. Two special projects have yielded striking results. The multinational Condor missile program has been of concern to the United States for some years. Our efforts to attack this problem on several fronts have paid off. Through coordinated use of intelligence and information-sharing, political demarches to several governments, vigorous pursuit of illegal U.S. exports, and visits to several involved countries, we have made

great progress toward assuring that Condor will not be a proliferation threat in the future.

We have also been concerned about the presence of SS-23 missiles in Eastern and Central Europe, and are pursuing their disposition with the countries involved. We are finding that the political changes in Eastern Europe and unification of Germany have created a climate of increased candor in which we are able to obtain information and cooperation from these governments. I anticipate full success in our efforts to eliminate the SS-23 problem. But our success appears to go beyond the SS-23. The former East Germans and at least two other countries have already indicated a desire to eliminate their missiles.

U.S. missile controls

The U.S. has imposed tight export controls on technology relevant to missile proliferation. An important recent move was the publication of a regulation to make U.S. citizen assistance to foreign missile projects subject to license, as well as knowing export of any item to foreign missile projects of proliferation concern. This will give us a strong hand in thwarting missile proliferation.

MTCR

We have also strengthened and institutionalized the international missile control regime. The Missile Technology Control Regime (MTCR) has undergone dramatic growth, and the partners have significantly strengthened its implementation. Starting with only seven members in 1987, the Regime has more than doubled to a total of sixteen members, including Spain, Belgium, Luxembourg, the Netherlands, Denmark, Norway, Austria, Australia, and New Zealand. We have discussed membership with various other countries. Several other countries are close to joining. In addition, Sweden and Finland are in the process of implementing export controls consistent with the MTCR Guidelines. A number of other countries have expressed interest in adopting the MTCR export guidelines. Overall, size, effectiveness, stature, and influence have all grown.

The partners are working hard to bring into the MTCR the remaining European Community, NATO, and European Space Agency countries.

At the most recent MTCR meeting, in Tokyo March 18-20, the partners made significant progress toward adopting a revised, updated Annex of controlled technologies. We plan to add a number of additional items usable in missile development and clarify technical parameters for several other items. We expect to finish this work at a technical group meeting in May and put the revised annex

into effect in all member countries by December. They also agreed to consider other controls the U.S. has imposed and further harmonization of controls and procedures. These steps are designed to strengthen the MTCR by making its implementation more uniform among partners, an objective that is crucial to the Regime's continued success.

I am pleased to inform you that the United States will host the next partners' meeting in the fall. This will be a major event for which we will be planning an active agenda.

GPALS

In his State of the Union address, President Bush announced the reorientation of SDI toward Global Protection Against Limited Strikes, or GPALS. GPALS would be a missile defense system against accidental, unauthorized, or limited ballistic missile launches, whatever their source. The system would provide protection for the United States, for our forces overseas, and for our friends and Allies.

As the Patriot's performance in the Middle East recently proved, defenses against ballistic missile attacks -- even if they are not foolproof -- can play a vital role in conflicts. Defenses against ballistic missiles would become even more

important if the number of third world countries with offensive missiles increases, and as countries increase the range and improve the accuracy of these missiles. GPALS will lessen the threat from third world missile proliferators.

The Enhanced Proliferation Controls Initiative

The largest single Administration non-proliferation effort of the last year has been the development of the Enhanced Proliferation Controls Initiative (EPCI). This initiative encompasses new U.S. export controls as well as vigorous efforts to get foreign countries to apply comparable controls. Well before the Iraqi invasion of Kuwait, the Administration recognized the need for tightened proliferation export controls on items that could contribute to chemical and biological weapon or missile proliferation. Before the invasion, the Administration had already begun to consider the imposition of additional controls on Iraq. In November, 1990, the President issued an Executive Order mandating a licensing requirement for certain dual-use CBW-related goods and technology, and requiring sanctions on countries and companies involved in CBW proliferation activities. After careful development through the inter-agency process, new controls were announced by the White House on December 13th, and regulations to implement EPCI were issued on

March 13 of this year.

The March 13 EPCI regulations provide major new authority to prevent U.S. goods or services from aiding foreign proliferation projects, wherever they might be.

- o We have expanded from 11 to 50 the number of chemical weapons precursors controlled by the U.S. to all countries except the 20 Australia Group of nations which cooperate against CBW proliferation.
- o A license is required for the export of certain dual-use CBW-related equipment to designated destinations.
- o A license will be required for the export of whole chemical plants making CW precursors, and designs for such plants, outside the Australia Group.
- o EPCI will require a license when the supplier knows or is informed by the U.S. government that any export is destined for a CBW or missile project.
- o Knowingly providing assistance by U.S. persons to such projects will also be subject to a license requirement.

All of these measures respond to real-world problems. They present an interlocking set of controls, which, working together, we believe will effectively prevent U.S. assistance to proliferation activities. In developing these measures, we consulted closely with U.S. industry. They have been narrowed and refined where possible, in an effort to minimize the burden on legitimate trade.

While it is too early to assess the results of EPCI, we expect it to be a highly useful new tool in our fight against proliferation.

Multilateral Efforts

We have been vigorously seeking to convince other countries to adopt controls comparable to EPCI. Several have already done so. We have pursued EPCI through existing multilateral mechanisms and in our bilateral dealings.

Australia Group

The Australia Group, which consists of 20 countries concerned about proliferation, has been making important strides. Last December's meeting of the Australia Group was highly successful. We presented the substance of

EPCI at that time and urged the other AG members to adopt comparable controls.

Spurred on by the immediacy of the Gulf CBW threat, AG members announced significant expansions of their controls. Eleven of the 20 members now control exports of all 50 CW precursors. This is a dramatic change. As recently as 1989, only two member countries controlled all 50 chemicals. The remaining members expanded the number of chemicals they control as well and said they would review adopting controls on all 50. Several AG partners also announced other EPCI-like controls, including controls on whole plants and CW equipment, curbs on citizen proliferation activities, and end-user controls.

In the months since the last Australia Group meeting, several countries have adopted additional CBW non-proliferation measures. Germany has put additional curbs on its citizens' activities and improved enforcement. France, the UK, Austria, and Switzerland have or are in the process of imposing additional controls.

We look forward to additional progress at the upcoming Australia Group meeting next month and are working actively with our partners to promote agreement to further strengthen CBW

controls.

The Nuclear Suppliers' Group

Substantial progress is also being made in the nuclear weapons non-proliferation area. An informal meeting took place last month in the Netherlands of the twenty-six countries that have adhered to the Nuclear Supplier Guidelines. These guidelines are an agreed set of principles and conditions that apply to transfers of nuclear materials, equipment and technology. This group of countries met to review current supplier arrangements and the conditions of supply and to consider some ways and means to strengthen them with a view to reinforcing the nuclear non-proliferation regime.

The participants at that meeting reconfirmed their strong commitment to preventing nuclear weapon proliferation, which represents one of the greatest threats to worldwide security and stability facing the international community.

The participants at the meeting also recognized the growing problem posed by the potential use of nuclear-related dual-use materials, equipment and technology in contributing to unsafeguarded nuclear programs or to the development of nuclear explosive devices. They agreed to establish a working group to

examine all possible arrangements that supplier countries could use to control nuclear-related dual-use items. This working group will begin its important work within a month, and we expect that a multilateral export control arrangement will be completed within a year's time.

We continue to press for universal adherence to the Nuclear Non-Proliferation Treaty, and urge supplier states to require fullscope IAEA safeguards as a condition for nuclear supply.

Other suppliers

There remain supplier countries outside the multilateral groups whose cooperation we need if non-proliferation efforts are to be fully successful. We have taken several steps to address this problem. First, we have encouraged some suppliers to join the multilateral non-proliferation groups. Second, in other cases, we have held bilateral discussions with the aim of getting other nations to establish effective non-proliferation export systems comparable to our own. For example, Deputy Assistant Secretary Verville went to Eastern Europe last summer for non-proliferation discussions. This was followed by a seminar on export controls for the Eastern European countries held in London after the meeting of Australia Group members last December. We will continue to assist in improving the Eastern European countries' export control systems, and we will be offering further technical assistance to them.

We have continued our efforts with China and the Soviet Union. In the May 1990 Washington Joint Statement on Non-Proliferation, the Soviets agreed to support the objectives of the MTCR and to work to stop proliferation, particularly in regions of tension such as the Middle East. We are discussing with the Soviets and our partners how to bring the Soviets more fully into the regime. We have also pressed the Chinese hard on missile proliferation. They have said they will "take into account relevant international parameters" on missiles and not sell intermediate range missiles to the Middle East. We will expect actions consistent with these statements, and will continue to urge an explicit Chinese commitment to observe the MTCR guidelines.

Our U.S.G. interagency interdiction groups for CBW and missiles have also proven effective. These groups seek to identify illicit proliferation-related shipments and stop them through cooperation with foreign governments. We have succeeded in a number of cases.

Sanctions

U.S. laws and policy provide for the imposition of specific sanctions in response to certain nuclear weapons proliferation actions. Sanctions against countries and persons involved in certain CBW or missile-related activities have recently been added to our arsenal against proliferation. Executive Order 12735 of

November 16, 1990 provides for imposition of penalties on foreign countries and foreign persons. The missile sanctions provisions of the 1990 National Defense Authorization Act (NDAA) provides similar authority for missiles. We hope the sanctions provisions will prove a deterrent to illicit activities, inducing restraint both by governments and companies.

An inter-agency CBW sanctions working group has been established to evaluate intelligence and identify potentially sanctionable CBW activity after November 16, 1990, the effective date of the Executive Order.

The Missile Trade Analysis Group (MTAG), an interagency group, was assigned the responsibility of identifying potentially sanctionable missile activities of U.S. and foreign firms. Both groups have met and vetted the large amount of possibly relevant information on sanctionable activities, but have not completed their analyses. The Administration has not as yet made any sanctions determinations, in part because the E.O. and law are prospective in character, targeting activities starting in November 1990, and good evidence to confirm such activities takes some time to develop. We are reviewing several potential sanctions cases. As you well understand,

these cases involve sensitive issues -- including intelligence considerations -- which preclude my going into detail here.

Other Arms Control Efforts

I will mention only in passing that the United States is making vigorous negotiating efforts in the area of CW and BW, as part of a longer-term effort to ban CW and make the prohibition on BW more effective. We are working to complete the final details of a protocol to our bilateral CW Destruction and Non-Production agreement with the Soviet Union. In the Conference on Disarmament, we are intensifying work on a comprehensive global ban on CW, which is the best long-term solution to CW proliferation. The President has made early conclusion of the global chemical weapons ban a high foreign policy priority. We are also developing a series of proposals to ensure that the Biological Weapons Convention Review Conference in September will result in measures to strengthen the convention.

COCOM and proliferation

At the June 1990 High Level meeting of COCOM, all partners agreed that reductions or changes in COCOM controls on advanced

technology should not in turn allow further the proliferation of non-conventional weapons or otherwise damage our security. Each partner nation agreed that national controls -- consistent with multilateral proliferation arrangements -- would be applied to goods and technologies released from COCOM control, but still of proliferation concern.

Looking to the Future

We have made significant strides in our non-proliferation policy and have an active agenda to build on them. I would highlight the following plans:

We will continue to negotiate a chemical weapons convention as one facet of the solution to the problem of chemical weapons proliferation.

Strengthening existing non-proliferation mechanisms must be a primary focus. We are pressing for greater uniformity and harmonization of controls. This could extend to licensing procedures, control lists, enforcement procedures, and the like. We are urging all Australia Group members to adopt controls comparable to those the U.S. now has in EPCI, such as licensing for all 50 CW precursors and CBW dual-use equipment. We are also expanding Australia Group activities

including creation of working groups and more frequent meetings.

We need to bring along other major suppliers, whether inside or outside the non-proliferation groups. This includes major countries in the South such as Brazil, Argentina, and India. We have made progress, but there is much to be done. We will continue our efforts to this end.

Structural Changes

Proposals for new international non-proliferation mechanisms are, excuse the expression, proliferating. Several of our Allies have advanced skeletal ideas along these lines. We expect to discuss these when the concepts have been better fleshed out. We will be pleased to consider any idea with real promise of improving non-proliferation performance.

In theory, a new mechanism connecting the separate, nuclear, CBW, and missile non-proliferation groups could facilitate easier international coordination cutting across

these different areas.

The existing organizations work, and their performance is steadily improving. They contain different members because there are varying suppliers of different items. The several regimes target different projects or countries of concern for different purposes, and their methods are tailored to their particular subject matter. We do not need another bureaucratic layer without compelling justification.

Likewise, you can expect us to be very cautious about diluting the effectiveness of COCOM by proposing the addition of proliferation issues to its responsibilities. On the one hand, COCOM has in the past supported our proliferation objectives by working to strengthen Western export control systems and, when necessary, agreeing to place on its control lists certain items of proliferation concern. On the other, encouraging countries -- in many cases friendly, non-aligned countries -- not to develop weapons of mass destruction is a somewhat different task than controlling the sale of strategic goods and technology to countries posing a potential military threat to members of COCOM. Proliferation issues often require the cooperation of COCOM-proscribed destinations (e.g. the Soviet Union), utilize scientific and technical cooperation in

addition to export controls, and often involve lower levels of technology available from countries outside of COCOM. We must be careful that any proposed changes in existing regimes complement rather than detract from our overall policy objectives.

Other proposals have focused on improving U.S. procedures for handling proliferation-related export controls. Several things have recently been done. In December 1990, the President directed new procedures to avoid needless delay and inadequate consideration of all facets of a proposed export. The new guidance provides for explicit timetables for review of export applications at the sub-Cabinet and Cabinet levels. The establishment of the Center for Defense Trade at the State Department has streamlined the handling of cases subject to State Department administered licensing of defense goods and services.

Mr. Chairman, in conclusion I would like to say that we have worked hard to make our non-proliferation policy a success. We have made considerable headway in what is an inherently difficult area. There are frequently competing and legitimate interests at play -- national security, foreign policy, and export promotion, to name three. The result is a balancing act. The Gulf War has given a real stimulus to our non-proliferation efforts nationally and internationally. We intend to capitalize on it fully.

Senator BINGAMAN. I'll start and just ask a few questions, if I could.

DEBATE ON EXPORT LICENSES TO IRAQ

Your statement that we have not been the problem, and particularly with reference to Iraq, somewhat contradicts recent news stories that would indicate that we have been at least part of the problem.

Now, maybe you have an explanation for that, but the information that came out a week or two ago was that, in the period from 1985 to 1990, we approved 771 export licenses to Iraq, and they included such things as advanced data transmission devices, spare parts for their helicopters, and a variety of things that clearly to my mind would have had some beneficial effect on Iraq's ability to wage war and to repress their own people, which we have seen a lot of in recent weeks.

Is it your statement that you don't believe any of the \$1.5 billion that we transferred to Iraq during that period, or approved the transfer of to Iraq, had a military significance to it?

Mr. CLARKE. No, Mr. Chairman. What I said was the United States did not deliver a single weapon to Iraq, and that the problem that Iraq posed was one of an overly large, destabilizing offensive capability—7,200 tanks in a country the size of New York.

Senator BINGAMAN. We contributed to their military capability. Whether we gave them tanks or not, there is no question that our \$1.5 billion did contain items that helped them to arm themselves for conflict. Wouldn't you have to concede that?

Mr. CLARKE. Senator, we certainly sold, as did most nations in the world, commercial goods to Iraq. However, I would like to stress that in all of this discussion about the United States having contributed to Iraq, it is overlooked that we did not send a single weapon to Iraq, despite the fact that we were asked to time and time again. People talk about how we tilted toward Iraq. Never, even during the period that people characterize as the tilt toward Iraq, did we license a single weapon. Many countries came to us and asked for permission to sell to Iraq U.S. weapons that they had bought or that they had made under U.S. license, and we denied every single one of them. Not a single weapon went.

Now, what you point to is dual-use commercial goods. Yes, dual-use commercial goods went to Iraq. The helicopter spares you refer to are spares for commercial helicopters. We never sold a military helicopter to Iraq.

My statement, and I think it's important to stress it, is U.S. and Coalition forces fighting in the Desert Storm war did not face a single U.S. weapon. We faced weapons from France, Brazil, South Africa, the Soviet Union, and China, but we did not face a single weapon from the United States. I think that's something about which we can be proud. We did have a responsible arms transfer program.

SALES OF TECHNOLOGY

Senator BINGAMAN. Well, let me just read you a paragraph and see if you dispute it here. It says: "In all"—and this is just from the Washington Post a couple of weeks ago—"the U.S. Government approved 771 sales of technology to Iraq." That's in this period up through 1990. The sales included advanced computers, radio equipment, graphics terminals that could be used to design rockets and analyze their flights, machine tools, computer mapping systems, imaging devices for reading satellite pictures, and helicopters worth \$25 million were bought for crop dusting. U.S. intelligence sources told the Los Angeles Times that some of the helicopters were used to spray poison gas on Kurdish civilians in 1988. The Federal Government also authorized the sale of 16 helicopters worth \$39 million to the Iraqi Air Force for search and rescue operations.

Do you dispute any of that, or you're conceding that, but saying that none of those were strictly military items, and therefore we were showing the proper restraint?

Mr. CLARKE. My point, Senator, is that if Iraq had only the United States as a source of supply, it would not have been a threat to anyone, and it would not have had the military wherewithal to invade any country. The contribution that the United States made to Iraq's military was through the sale of commercial goods and through the sale of things licensed by the Commerce Department.

What you refer to, those 771 cases, are all licenses of commercial goods sold under the Export Administration Act licensed by the Commerce Department. This administration has not approved a single case of defense goods and services to Iraq.

Senator BINGAMAN. You don't think our Defense Department had any objection to any of those items going to Iraq or would in retrospect have been concerned?

Mr. CLARKE. In retrospect, Mr. Chairman, I think the regulations that we have put into effect in the last year would have prevented many of the dual-use items that you have mentioned from going to Iraq. The Enhanced Proliferation Control Initiative provides us new export regulations that would allow the administration to stop some of those items.

But my point is not that some dual-use items did or did not go to Iraq. They did. My point is they were not the source of the Iraqi military capability. They were not the source of the destabilizing military threat that Iraq posed to the Persian Gulf. The United States did not contribute 1 percent of the source of supply of Iraq's military capability; not a single fighter plane; not a single tank; and not a single missile was sold to Iraq. Again, to repeat myself, if the United States were the only source of supply Iraq had, it could not have invaded—

Senator BINGAMAN. I'll certainly agree to that. If we had been the only source, they could not have had the military capability they had, but I do think it's clear that we were part of the problem, not part of the solution.

SANCTIONS

Let me also just ask about your statement that we have consistently pursued a restriction of these weapons. After Saddam Hussein used chemical weapons against the Kurds in 1988, my information is that the administration opposed any legislation to impose sanctions on Iraq for that and refused to restrict sensitive exports to Iraq even after the threats that were made against Israel in 1990.

Now am I confused or am I getting bad information on that?

Mr. CLARKE. I would like to begin by answering about sanctions, Mr. Chairman. The administration opposed automatic unilateral sanctions that would not give the administration a chance to work first to get sanctions adopted multilaterally, and that would not give the President some flexibility in his constitutional role of executing foreign policy.

We were opposed then and we are opposed now, and I think any administration, Democratic or Republican, would be opposed to automatic unilateral sanctions that tie the hands of the President and don't allow him the flexibility that he needs in carrying out his constitutional task of implementing foreign policy.

With regard to the controls we had on Iraq and after their use of chemical weapons against the Kurds in 1988 at Halabja, we had I think the toughest controls of any nation in the world on exports to Iraq. Through the defense licensing procedures for defense goods and services, we had a policy not to sell defense goods and services to Iraq that goes back to 1963.

Senator BINGAMAN. But I'm talking about an effective ban. I'm not talking about some statute.

Mr. CLARKE. Well, I think that was pretty effective, Mr. Chairman. Not a single thing went under that category. In the area of missiles, we had already put into effect a total ban on the sale of any missile-related technology, including dual-use technology, to Iraq long before 1988. We had a total ban on any missile-related technology going to Iraq. We had no trade in any chemical weapon precursor going to Iraq. We had no trade in any biological weapon precursor going to Iraq. We had no trade in any nuclear-related sensitive material going to Iraq all before the event that you talked about in 1988. So I think we had a very, very tough export control policy toward Iraq prior to 1988. I think it was the toughest in the world.

Senator BINGAMAN. Well, the fact that our allies may have done worse, doesn't necessarily give us a sterling record.

CHINESE PROLIFERATION

Let me just ask about one other item, and then I'll defer to Congressman Arney for his questions and then go to the next witnesses. But you also in your statement talk about how hard we have pressed the Chinese on missile proliferation with positive results, and they have said they will follow a prudent and responsible attitude. There has been a lot in the press very recently about China's recent dealings with Pakistan on these M-11 ballistic missiles. How does that activity by China square with a statement that they will follow a prudent and responsible attitude?

Mr. CLARKE. The Chinese have taken the position with us that they will adhere to the international guidelines on missile technology controls and exports. There is only one set of such guidelines. So, we infer that they mean the MTCR guidelines. We have had an ongoing dialogue with them for 2 years now.

As you know, there have been several reports over the course of the last 2 or 3 years of the Chinese preparing to sell the M-9 missile to Libya, Syria, Iraq, and Iran. None of those sales have ever come into being, though they were perhaps being discussed.

The report you cite is a recent report that is in the press as a result of a leak of sensitive intelligence material. So I don't want to comment in any detail on the specific case. But, let me say that we have concerns about the Chinese performance on proliferation across the board. We have concerns about their performance on the export of precursor chemicals, we have concerns about their performance on the export of nuclear technologies, and we have concerns about their statement to us that they are living up to the international guidelines on missile proliferation.

We are discussing all of these issues with them. As yet, I think it's accurate to say that we have not seen clear-cut evidence on a full-scale delivery of a missile contract that would violate the missile guidelines in terms of the range of the missile. The MTCR regulates missiles that have a range of over 300 kilometers carrying a payload of more than 500 kilograms, and there is some doubt as to which Chinese missiles fall into that category and which do not.

Let me just say that there is yet to be a case that we have been able to document successfully of a completed full-up sale of such a missile. We are investigating all of the reports that we get, and we are having a dialogue with them. We are not totally satisfied with their performance. On the other hand, much of what people said they were going to do, they have not.

COMPLIANCE WITH MTCR

Senator BINGAMAN. Well, let me just ask on a specific. You indicate that they have indicated they are going to comply with the Missile

Technology Control Regime, and yet there is this article in the Christian Science Monitor dated March 29. Foreign Minister Kian Keech, and I don't know if that is the correct pronunciation, noted at a press conference Wednesday that China had not signed the Missile Technology Control Regime and did not attend a recent meeting in Tokyo of 15 signatories to the agreement. "Those countries that did not attend the meeting should not be called upon to assume corresponding obligations to an agreement reached among some other countries," Mr. Keech said.

Now that doesn't sound like total commitment to participate fully in the spirit and letter of the MTCR. How do you square that statement by their Foreign Minister with your understanding that they are intending to comply?

Mr. CLARKE. This is a consistent pattern with the Chinese with regard to the MTCR. They have taken the position that they were not original parties to the creation of the organization, and that they would not join any organization of which they were not original parties and didn't have a say in drawing up the original guidelines.

So what the Foreign Minister said is absolutely true. They are not a member, and they don't go to the meetings. They also say to us privately that they also intend to observe or take into account the relevant international guidelines.

Senator BINGAMAN. Foreign Minister Keech says: "Those countries that did not attend should not be called upon to assume corresponding obligations." Now presumably that means whatever people who are a party to the MTCR agree to, we're not obligated to assume those.

Mr. CLARKE. That's right. They have consistently taken the position publicly that they have no obligation.

Senator BINGAMAN. Oh, I see. So you're saying that this is a ringing endorsement of it, but it's just that they are stopping short of saying they have to be complying, but they are still saying they are complying.

Mr. CLARKE. Mr. Chairman, what they are saying is they have no obligation, and they are publicly touting their sovereignty and privately giving us assurances.

Now, as I said, we have problems with their performance. We constantly question them about whether or not they are living up to what they tell us privately they are living up to.

NO EVIDENCE OF NONCOMPLIANCE

Senator BINGAMAN. But you're advising us that your best information is they are in fact living up to the MTCR?

Mr. Clarke. I cannot point to a missile sale, a sale of a completed full-up missile system, that has been transferred in violation of the MTCR. We have questions about some of their missiles, and we have questions about whether in some cases they may be beginning to do that

transfer. But there is no missile force fielded in the world that the Chinese provided in the past.

There is no missile force fielded operational anywhere in the world since that time that is of Chinese origin that would violate the guidelines. Our interpretation of the guidelines, of course, goes beyond simply providing completed end items, full-up missiles.

The guidelines, as we construe them, also take into account dual-use technologies. It takes into account production capabilities and a variety of other things other than full-up completed missile systems. That's one of the things we're having a continuing dialogue with the Chinese on. We are not satisfied with Chinese performance, and we are actively having a dialogue with them.

But in answer to your question, I think we can say that as yet there is no missile force out there in the world that the Chinese have transferred since they told us they would observe the guidelines, and we would like to keep it that way.

Senator BINGAMAN. Congressman Arney, did you have some questions of Mr. Clarke?

Representative Arney. Thank you, Mr. Chairman.

TRADE WITH IRAQ

Mr. Clarke, you say, and I believe you are correct in saying, that we did not directly provide any weaponry to Saddam Hussein. I would suggest that it was probably painfully obvious to people who pay attention to these sorts of things that this was a Nation that was making an irregular expenditure on arming itself, and I'm sure this probably was clearly obvious to people who looked at that and thought that we ought to try to somehow restrain against that.

There is an old adage that I remember picking up in one of my economic development courses that you cannot subsidize one part of the budget without subsidizing all of the budget, and let me suggest that there is a tremendous amount of confusion here that I see.

We have an agreed upon principle that we ought to find some way to restrain the ability of a potentially dangerous nation to build up its arms and to acquire strategic materials in that process. The Defense Department clearly has a very important concern, and the State Department has that concern as well as other current concerns with respect to diplomacy in trade, et cetera. The Commerce Department has its concern.

And that brings me then to the Agriculture Department, and I want to just toy with this idea for a moment, because I had an interesting experience related to Iraq in July of last year before we all found out what a villainous outfit they were.

We had a little old amendment in the Farm bill that was passed that would disallow Iraq from participating in, I think the program is called,

the Export Enhancement Loan Program? Is that correct? I can go back and look, but you know the nature of the program is for us to underwrite loans at preferential rates to countries that export our wheat. We passed this on the floor because we successfully convinced everybody this was a villainous outfit, and we ought not to be underwriting their ability to feed themselves. Now if they are spending \$30 billion a year on arms, you can clearly see that there is no need for us, if we want to reduce their expenditure on arms, to make it easy for them to be \$3 billion in hock for our wheat. I mean we have subsidized their ability to acquire arms from Russia or wherever if they are not having to put cash on the barrel head for the wheat.

Now it was argued at that time that Iraq is a good trading partner and they always paid cash and carry. Once we discovered they were villainous and wanted the world to know they were villains, we released the fact they were \$3 billion in hock to this program and would most likely not pay it.

Now it was interesting to me to see a variation by one of the farm State members of the old Hicksian compensation principle that if, in fact, a Secretary could judge that the exporters of wheat were harmed more than the importer that we were trying to constrain was harmed, that in his judgment he could then set aside this principle—this fascinating little thing—and I'm sure Sir John Hicks would be very proud of the political use of such a profound principle that he developed in economic theory showing the point that even the best of ideas can be corrupted by people in public office, and then we negated the passage of that.

But my point is, if, in fact, we take a nation that has the potential to turn out as Saddam Hussein and Iraq did, and we show all this restraint on our willingness to provide these technical goods and this military hardware leaving them an avenue of escape to acquire the same things from other nations, and then we turn around and subsidize the other side of the budget, we are in fact making it possible for them to acquire these materials.

Is there something wrong with my thinking here?

Mr. Clarke. Congressman, my expertise doesn't extend to agricultural subsidies, but I think you're absolutely right to say that the United States was trading in a variety of ways with Iraq. There are only a handful of countries in this world with whom we do not trade at all, where we have a total embargo, countries like North Korea, Libya, Cuba, and Vietnam.

Iraq was not one of those countries, and to the extent that we were trading in agriculture, to the extent that we were trading in dual-use goods, no doubt it made some indirect contribution to his capability.

But I would like to come back to the fact that for many, many years long before public and congressional attention focused on Iraq, we had no trade in weapons sales to the Iraqi military; no trade in nuclear-

related and missile-related technology; no trade in chemical dual-use precursors; and no trade in biological agents going to Iraq. Put it all together and that was pretty good.

Given the new controls in the Enhanced Proliferation Control Initiative, we are now in the position to deny the Iraqis of the future even more, and I think that is about as good as we can do. We have in this package controls that enables us to stop anything going that is at all related to weapons. It doesn't stop agricultural sales. If there is an Iraq of the future out there now that we are continuing to do agricultural sales with, I'm afraid I don't know enough to comment on that.

NEED FOR COORDINATION

Representative ARMEY. It seems to me we are going to have to get, whether it be among the committees in Congress or among the agencies of the Government, some coordination of effort. To me it does not make sense if we identify the nation as a potential outlaw nation, then say that we are saying that we're going to try to diminish their ability to acquire arms, and see them spending \$30 billion a year in arms; then turn around and say well, this poor old nation needs our subsidy to buy food. If you can afford to buy the arms, you can afford to buy the food cash and carry.

They were buying the arms cash and carry, I have no doubt about that, and it just seems to me this is an area we're going to have to look at.

ARMS CONTROL AND DISARMAMENT AGENCY

I am curious, if I may ask one more question, curious if you could tell me something about the Arms Control and Disarmament Agency. My understanding is that this is an agency that's fairly independent, that has a reputation for being the least political agency that we have concerned with these matters, and at the same time perhaps an agency with the most complete and comprehensive database, and that it tends sometimes to get left out of the loop in making these kinds of decisions.

Now, you know, I'm an old public choice economist by trade, and I happen to believe that all decisions will always be made if you have a more complete and more accurately and honestly considered database. I'm concerned that even the suggestion that there is an agency with the best database, that is most objective in its analysis of its database and is least political, and that there tends to be a pattern of leaving it out of the loop when decisions are made.

I wonder if you could tell me something about whether or not that is real and, if so, why would we want to deny ourselves the best information possible?

Mr. CLARKE. Well, Congressman, if I can go back to my chart of the interagency system. You see, at the highest level, the Policy Coordination Committee—the Arms Control and Disarmament Agency (ACDA)—has an Assistant Secretary that sits on that PCC. They have a Deputy Assistant Secretary on each of the three subcommittees. They have people sitting on each of the working groups underneath it. Every license for a significant weapons sale that the State Department issues is referred to an office in the Arms Control and Disarmament Agency.

Hardly, a meeting in this government is held on any of these subjects without ACDA being present. The fact that they are physically in the State Department and can walk from my office to ACDA in about 2½ minutes guarantees that sort of coordination.

They do have good databases, and so do we. We are cooperating on all of these issues. There is no one here today testifying from ACDA, but they cleared my testimony, and I'm sure if the member of this committee, the Assistant Secretary level officer from ACDA who participates in all of these issues were here, he would take no exception to anything that I or my colleagues from Commerce or Defense say. They are thoroughly integrated into the operation.

Representative ARMEY. So, I should not suspect that maybe you have a good healthy turf battle going between State and Defense and that you've both said, ACDA, keep you nose out of it?

Mr. CLARKE. Absolutely not. I think you'll find that the Defense Department and ACDA have a commonality of views on most of these issues. Certainly we and ACDA do. They are a body of civil servants and foreign service officers and some military officers on loan that provide a significant amount of expertise in all of these areas, but most notably, I would say, in the area of nuclear and chemical proliferation.

Representative ARMEY. Thank you.

Thank you, Mr. Chairman.

Senator BINGAMAN. Why don't we go ahead at this point with the other two statements, and then we'll have some questions for the whole panel.

Mr. LeMunyon, why don't you go ahead and take 10 or 15 minutes, whatever you need, to summarize your prepared statement, and then Mr. Sokolski, and then we'll ask a few additional questions.

**STATEMENT OF JAMES M. LEMUNYON, DEPUTY ASSISTANT
SECRETARY FOR EXPORT ADMINISTRATION, BUREAU OF
EXPORT ADMINISTRATION, DEPARTMENT OF COMMERCE**

Mr. LeMUNYON. Mr. Chairman, I'll try to keep my remarks shorter than 10 or 15 minutes in the interest of getting to your questions.

I have a prepared statement that I would ask be included in the record, and I will just make a few summary comments.

DUAL-USE ITEMS

As has already been indicated this morning, the Commerce Department is responsible for the licensing of exports of dual-use items—those items which are predominantly commercial in nature, but which can also have military applications.

Those items which are clearly military in nature are licensed, of course, by the Department of State. So in the course of my remarks and in response to your questions, I will be talking about those items that are dual use in nature.

Mr. Chairman, our system of export controls exists as a reflection of the security threat that faces the United States and our allies. During the past 2 years, this threat has changed in a very significant way, both in terms of concerns related to the Soviet military as well as the proliferation of missiles, chemical and biological weapons and nuclear weapons in the Middle East, and other regions.

As a result, U.S. and international export controls are undergoing a fundamental transformation from a regulatory regime reflecting cold war era concerns to a regime that addresses the security concerns of the 1990s.

EXPORT CONTROL REGIMES

At the present time, the United States and key allies are in the process of simultaneously creating or renegotiating five separate export control regimes. The United States has approached each one of these regimes from a framework of four elements that are essential to a system of effective international export controls.

First, participation by all major supplier countries; second, establishment of a list of items commonly controlled by all participating countries; third, the use of a common set of destinations to which those items are controlled; and fourth, the adoption of common standards of national administration and enforcement of export controls.

Assistant Secretary Clarke has already discussed the new Enhanced Proliferation Control Initiative, so I won't go into further detail at this point on the elements of EPCI.

I will mention that the United States has already presented EPCI to our Australia Group partners at its last meeting in December, and we expect EPCI to be a major agenda item at the next meeting in May.

In addition, Mr. Chairman, you have already mentioned this morning the Tokyo meeting of the Missile Technology Regime. A major action item from that meeting was agreement to revise and add items to seven categories of the Missile Technology Control Annex, in particular items in the dual-use category, and we will be continuing negotiations at a technical level next month on further revisions to the Annex to be ratified later this year.

In addition to those two regimes, in the area of supercomputers, we have been negotiating over the past 2 or 3 months and are very close to the establishment of a new system of international controls on supercomputers that we expect will include some of the emerging supplier countries.

In the nuclear area earlier this year, 26 countries agreed to begin technical work on a list of dual-use items that would be controlled to prevent the proliferation of nuclear weapons as a basis for these discussions. The United States has already presented a list of more than 60 dual-use items that have been controlled by the Department of Commerce dating back to the 1970s. We welcome this opportunity for our allies to join the United States in participating in that system of controls.

Finally, after almost 1½ years of reevaluation and negotiation, the United States and our CoCom allies expect to agree next month to a major revision in the system of East-West controls and implementation of a new CoCom Core List.

In addition to negotiations in each one of these regimes, the United States continues to actively work on a bilateral basis with specific countries. We recently announced in Commerce Department regulations, changes in our control policy on exports to Ireland in reflection of the control system that they have established, although Ireland is not a CoCom member.

We expect to take additional steps in the near future with other traditionally neutral countries. We expect to take steps in the very near future indicating changes in our export policy to Poland, Hungary, and Czechoslovakia as a response to and reflection of the control regimes that those countries have established in recent months in close cooperation with the United States.

Mr. Chairman, I make these points cognizant of the suggestion in your opening statement that our export control process is in disarray, and I would respectfully disagree.

I think that over the past year or year and a half we have engaged in carefully considered fundamental retransformation of our controls, not only here in the United States, but as Assistant Secretary Clarke has mentioned, the United States is leading this effort among our allies.

I can understand that perhaps from the outside looking in the fact that these changes are happening rapidly, are very complex, and are occurring in parallel could lead someone to conclude that our system is in disarray. But I think that quite the opposite is true and that by the end of this year, we expect to have established new regimes or renegotiated the existing regimes to reflect the security concerns that exist for the 1990s.

I would be happy to go into greater detail in each one of these areas in responding to your questions.

Thank you.

Senator BINGAMAN. Thank you.
[The prepared statement of Mr. LeMunyon follows:]

PREPARED STATEMENT OF JAMES M. LOMUNYON**Introduction**

Mr. Chairman, thank you for this opportunity to appear before the Joint Economic Committee to discuss various aspects of U.S. policy on export controls. In response to your letter of invitation, I will discuss current and proposed export control measures which are part of the Administration's Enhanced Proliferation Control Initiative as well as on-going efforts to achieve multilateral consensus on U.S. non-proliferation export controls.

The Commerce Department is responsible for the licensing of exports of dual-use items--those items which are predominantly commercial in nature, but which can also have military applications. Those items that are clearly military in nature are licensed by the State Department. During the course of my remarks, I will be discussing only dual-use items under the purview of the Commerce Department.

Before I begin my discussion, I cannot overlook the statement in your letter of invitation suggesting there is "disarray in the export licensing process." I respectfully disagree. During the past year, the United States has been leading our allies in a carefully considered, fundamental transformation of the structure of U.S. and international export controls. This includes simultaneously establishing or renegotiating five separate export control regimes which address (1) East-West trade (COCOM), (2) chemical-biological weapon proliferation, (3) missile proliferation, (4) nuclear-proliferation, and (5) supercomputer exports.

I can understand that from the vantage point of Congress or the public, the rapid and complex changes that are taking place in parallel in these five areas might lead some to conclude there is "disarray." In fact, by the end of 1991 the U.S. expects that new or substantially strengthened international export control regimes will be in place in each of these areas that properly address the security concerns of the 1990s while minimizing the impact on legitimate commercial transactions.

The United States has approached each one of these regimes from a framework of four elements which are essential to a system of effective international export controls: (1) participation by all major supplier countries; (2) establishment of a list of items commonly controlled by all participating countries, (3) use of a

common set of destinations to which these items are controlled, and (4) adoption of common standards of national administration and enforcement of export controls.

The following comments provide a brief summary of U.S. and international action in the four export control regimes that are designated to address proliferation concerns.

Enhanced Proliferation Control Initiative

In early 1990, the Administration undertook the development of a series of major initiatives to strengthen export controls to prevent U.S. sales from assisting certain missile projects as well as chemical and biological weapons programs worldwide and to seek early multilateral adoption of comparable controls. This effort has become known as the Enhanced Proliferation Control Initiative (EPCI), and was formally announced by the Administration in December 1990. The most essential elements of EPCI became legally effective in the United States on March 13, 1991.

In an effort to halt the spread of chemical and biological weapons, the United States works closely with the Australia Group (AG), an informal 20-member organization that impedes CBW proliferation by controlling CBW-related exports.

Under EPCI, the United States requires an individual validated license for the export of 50 chemical precursors identified by the Australia Group as having chemical warfare applications. This requirement applies for exports to all destinations except members of the Australia Group. Prior to March 13, 1991, 11 of the 50 chemicals were controlled worldwide.

In addition to chemical precursors, the United States requires an individual validated export license for exports to 28 countries and destinations for dual-use equipment and technical data identified as potentially useful in the development of chemical or biological weapons. Prior to this control, the United States had no regulatory basis for reviewing sales of commercial equipment that could potentially be used in chemical or biological weapons manufacturing activities. Now, there is regulatory authority to deny such export license applications, when appropriate.

In addition, Commerce will require an export license when an exporter knows or is informed by Commerce that an export is destined for missile or CBW activities. Under this provision, the U.S. will have the authority to stop any export, even items not found on a control list, which are destined for such activities.

U.S. citizens who knowingly participate in such CBW or missile activities will also require a Commerce license. Previously, these types of activities were not subject to Commerce controls. This new provision is intended to prevent any U.S. person from contributing to the proliferation of chemical, or biological weapons or to the development of missile systems.

In addition, participation by U.S. persons in development of chemical plants that manufacture any of the 50 controlled chemical precursors will also require an export license if constructed in a country outside of the AG. This new requirement will enable the United States to track the construction of new chemical plants to ensure that their purposes are benign.

The latter three elements were published in the Federal Register on March 13, 1991 in proposed form. Public comments were sought on all aspects of the EPCI controls. The public response to these regulations focuses primarily on the need to obtain multilateral adoption of EPCI. After consideration of the public comments, the proposed aspects of EPCI will take legal effect.

Since the announcement of EPCI, the U.S. Government has sought the adoption of comparable controls by other countries. At the December 1990 Australia Group and March 1991 Missile Technology Control Regime (MTCR) meeting, the United States outlined the provisions of the EPCI regulations and urged their adoption by AG and MTCR member countries. The U.S. will continue to pursue multilateral adoption at subsequent meetings. The next opportunity is the May 1991 meeting of the AG.

Missile Technology

The MTCR, which was established in 1987 by the United States and six other countries, is dedicated to halting missile proliferation by controlling exports of weapons delivery systems and related equipment and technology through a common control list called the MTCR Annex. Since its inception, the MTCR has expanded to 16 countries.

Currently, the MTCR partners are reviewing the missile technology and equipment control list to ensure that it is up-to-date. During the March 1991 meeting, the partners agreed to revisions in seven Annex categories, based upon review which commenced last year at the urging of the United States. Next month, technical experts will again convene and discuss the remainder of the Annex. Revisions agreed to at both sessions will be implemented later this year. This will result in greater clarity and coverage of the list, thereby ensuring that all key items are multilaterally controlled.

In an effort to create greater uniformity in national licensing decisions among regime partners, the United States has circulated to MTCR partners lists of missile projects to which U.S. exports are generally denied.

Nuclear Export Controls

In February 1991, 26 countries agreed to establish a working group to develop a control list for dual-use nuclear-related items. A technical working group is scheduled to meet in May 1991. The United States will use as a basis for the negotiations the list of 62 commercial product categories of items with nuclear applications that Commerce has controlled unilaterally since the late 1970s.

Supercomputers

In addition to these three non-proliferation regimes, the United States is actively pursuing negotiations to improve export controls on supercomputers and obtain the participation of all supplier countries in a control regime. Supercomputers have applications in not only nuclear weapons and missile programs, but remain of concern for the traditional COCOM reasons related to Soviet military capability. The President has set June 1 as the deadline for establishing such a regime.

Conclusion

Controls on exports continue to be necessary as a reflection of security threats. Dramatic changes during the past 18 months in East-West relations, in the Persian Gulf, and in other regions warrant a fundamental restructuring of U.S. and international export control regimes. The United States continues to lead the effort to reshape export controls which was started in early 1990 and is expected to be completed later in 1991. Special attention is being given to stemming the proliferation of missiles as well as chemical, biological, and nuclear weapons because they pose increasing security threats.

This concludes my prepared remarks. Thank you for the opportunity to testify.

Senator BINGAMAN. Mr. Sokolski, please proceed.

**STATEMENT OF HENRY SOKOLSKI, DEPUTY ASSISTANT
SECRETARY FOR NONPROLIFERATION POLICY,
DEPARTMENT OF DEFENSE**

Mr. SOKOLSKI. I'll try to keep my comments brief. I think I prepared too much testimony. What I would like to do is try to at least answer one or two of the questions posed by your staff and the subcommittee, including how we think about dual-use technology and trends with regard to technology proliferation. I'll go very briefly over that, and what priority and approach DoD takes with regard to these trends.

If there is time, I would like to briefly discuss what could be described as a success—and in what sense it was a success—in regard to Condor. The Defense Department, and, I think, the administration, and the U.S. Government can be proud of what was done there and is still being done.

PROLIFERATION TECHNOLOGIES

First, some comments on technologies of proliferation concern. A headline here would read, we first need to establish what is a technology of proliferation concern—it's becoming increasingly ambiguous—and we need to understand this as we look to the future, which I think is the key focus of what the administration is working on.

Where nonproliferation once focused almost exclusively on controlling the spread of specially designed nuclear equipment and materials, and I'm speaking here of the 1950s, 1960s, and 1970s; it now encompasses both munitions and dual-use controls, not just in relation to nuclear technology, but also to chemical, biological, and missile-related technologies.

In addition to transfers of major components of nuclear, chemical, biological, and missile-related systems, we are also controlling the technological know-how in dual-use items that might help produce such systems or components, which Assistant Secretary Clarke referred to in his explanation of the MTCR.

DUAL-USE TECHNOLOGY

This last point concerning dual-use technology, I think bears some reflection, particularly as we look forward to the decade ahead. Whereas 30 or 40 years ago our nation's most advanced technologies—nuclear energy, missile and satellite technology, computers, communications and navigation systems—were principally developed by the U.S. military or governmental sectors. Today nearly the reverse is the case.

The best computers, some of the most innovative space-launched systems, nuclear innovations, communication, and navigational satellite systems now come from private industry and are sold primarily to civilian customers. Although our government and military buy these goods, they are no longer the largest or most significant purchasers.

The benefits of this transformation I think are obvious. Defense investments and government investments made some time ago are now enriching our entire peacetime economy. Our long-distance phone bills are cheaper, our electrical power supply base no longer needs to depend upon fossil fuels entirely, our planes and ships fly more safely and are more certain of their course, and affordable powerful computers have helped us in every aspect of life.

However, as we trade in these technologies and broaden their beneficial applications, there will be an unavoidable downside that we need to be alert to. These technologies, after all, were originally devised to secure our military superpower status and could be used by others for similar purposes in the future. Clearly, those who would wish us or our friends harm could use these technologies in the future against us.

DoD POLICIES AND GOALS

In the testimony, I refer to a couple of examples, and I will not burden the subcommittee with going over those now. I would like to move to the more general point about the priority DoD now is placing on addressing these kinds of trends.

First, let me just say the priority is high. In fact, this is the key reason why my position and office were created, why my office was placed under the Assistant Secretary of Defense for International Security Affairs rather than under an office dealing either with negotiations or export control.

In addition to developing policy options for DoD and the handling of particular export cases or negotiations, my office has been given the lead within DoD to conduct research concerning proliferation. Since my arrival in September 1989, the number of projects has nearly doubled in this category. We have also become increasingly involved in the coordination of many DoD efforts that can help address the proliferation threats described. I think that it is difficult, at best, in large organizations to establish new offices and to move as quickly as we have. I'm very pleased with the results of what DoD has managed to do in a short period of time within the agency.

Our goals at DoD are determined, I think, by the type or character of proliferation being addressed. I am now referring when I speak of proliferation to what I call the host of horrors—nuclear, biological, chemical- and missile-related technologies. I'm not speaking for the moment with regard to conventional munitions, which is not my responsibility.

APOCALYPTIC CONCERNS

In the case of what I sometimes refer to as the apocalyptic proliferation concerns, particularly the nuclear threat that was mentioned by Congressman Stark, DoD's goal, as is the goal of the entire government, must be to do all we can to stop these developments with the hope that the political or financial support for these projects will die.

To some limited extent, our forces can be defended passively against the current generation of chemical and biological weapons. Efforts to advance the current CBW threat by developing agents that exceed our current limited defense capabilities, are developments that we cannot afford to be blase about and must stop.

In the case of nuclear weapons, passive defenses, much less active ones, are virtually nonexistent; and the imperative to stop the development is quite clear.

NONAPOCALYPTIC THREATS

With regard to what could be described as nonapocalyptic threats—conventional missiles; nonlethal and manned air vehicles; submarine, particularly shallow waters; satellite and command, control and communication technologies—DoD's goal is still to limit their proliferation as much as possible. But with a caveat that even if we merely slow their arrival, this, too, can be militarily beneficial, even if the program is eventually completed and fielded.

In the case of delay, enough delay is until we can develop adequate military countermeasures; for example, defenses, such as GPALS, shallow water ASW, new jammers, theater missile defenses and the like, and also so that we can rearrange some strength in existing military security alliances and security alliance relationships.

Clearly, the less money Defense has to develop such countermeasures, the more time that is needed to keep the threat at bay, and that's one of the reasons why we are very concerned to do all we can to support the kinds of export controls mentioned here. Defense has a security stake in these things.

CONDOR

Now, briefly, I would like to discuss an example of a success and try to explain briefly what it's military consequences are with regard to Condor.

Condor at one time was a missile-development program being conducted by a number of nations, including connections ultimately to Iraq. It was originally scheduled to be completed as on-line-producing missiles well before Desert Storm. However, the missiles were never

fielded in any of the nations that were sponsoring originally, much less fired at us in the Persian Gulf.

Had this program been completed and on schedule, our missile problems that we experienced in Desert Storm would have been much more daunting, with the possibility of large numbers of fatalities.

The SCUD's after all, even including their operators, were notoriously inaccurate, missing their intended targets sometimes by as much as a kilometer or more. The Condor was intended to be much more accurate, and was intended to be produced in large numbers in country. Had the numbers and accuracies been realized before Desert Shield was conducted, the Condors could have been used to perform some of the strategic functions Iraq's Air Force and the SCUD's simply could not do.

In specific, they could have been used to knock out or stun our air operations from local Saudi air fields, paralyze our logistical support from ports in Saudi Arabia and elsewhere, and destroy our theater air defense units and fixed command centers.

The objectives and missions, moreover, could have been accomplished without necessarily having to resort to chemical, biological, or nuclear warheads. Conventional munitions would have been sufficient with the Condor as originally designed.

Finally, because the Condor was designed as a solid fuel, two-stage missile, it would have been more mobile, harder to find, capable of longer ranges, faster and thus much harder for our Patriot radars to detect than a SCUD.

For these reasons, even before the United States formally announced its adherence to the MTCR in 1987, we assigned an extraordinarily high priority to blocking the missile's development; and I might add I believe with good results.

KEYS TO BLOCKING DEVELOPMENT

Several key principles were followed in this effort.

First, we blocked exports even though peaceful civilian applications were claimed. In fact, the Condor was alleged by its developers to be a peaceful scientific rocket. Despite this, the United States joined with other supplier nations in denying exports to the Condor II program and continue to do so with similar programs, whether they are overtly military or alleged for such scientific purposes as sounding rockets or space-launch vehicles.

Second, we focused our efforts on blocking critical technologies, such as guidance propellant mixing, production equipment, and the like. Of course, we tried to block as many other Condor exports as possible. We understood though that we might not succeed in blocking all of them.

This brings me to the third principle, which I think can't be emphasized enough, which is at Defense we understood that the aim

was to block enough technology to make a difference. Successful development of ballistic missiles, like the Condor, involves the integration or harmonizing of some quarter of a million parts. It is a very expensive and tedious proposition.

We do not need to block all the quarter million parts in order to block the project as a whole. Therefore, we consciously aimed with the other agencies to prevent shipment of enough of the key items long enough so that financing or political support dried up or until we had an effective military means to cope with the threat once it arrived.

By this criterion, I think our efforts concerning the Condor have so far been quite worthwhile. Even though some components slipped through, enough have been denied or delayed to seriously impact the program.

Additionally, governments that were once supportive of this program are now helping us slow the program down, freeze it, and block it entirely. Also, the organization responsible for procuring items for Condor are still having great difficulty in acquiring the items they need.

Meanwhile, the United States, Israel, and others are working on follow-ons to the Patriot and on systems that will help us find and target mobile missile launchers more readily. Our hope and plan is that a sufficient amount of this work will be completed soon enough for us to cope if Condor-like missiles are ever deployed.

I would like to stop here for the sake of brevity and leave myself open to questions.

[The prepared statement of Mr. Sokolski follows:]

PREPARED STATEMENT OF HENRY D. SOKOLSKI

Mr. Chairman:

I wish to thank the Committee for this opportunity to testify on what we all agree is a very important topic. You and your committee's staff are to be commended for holding regular oversight hearings on this complex matter.

Your committee asked that I address four key questions: (1) What are the trends in the proliferation of non-conventional weapons technologies and what new security threats might they pose? (2) How high a priority does DoD place on the need to address these trends and what is DoD's general approach to addressing them? (3) How does Defense measure success in non-proliferation and what example might it give of such "success"? (4) What steps should be taken to build on past successes?

Proliferation Trends, Security Problems

I should say from the outset that "technologies of proliferation concern" is itself becoming increasingly ambiguous. Where non-proliferation once focused almost exclusively on controlling the spread of specially designed nuclear equipment and materials, now it encompasses both munitions and dual-use controls not just in relation to nuclear technology, but also to chemical, biological (CBW), and missile-related technologies. In addition to transfers of major components of nuclear, CBW, and missile systems, we also are controlling the technology (know-how) and dual-use items that might help produce such systems or components.

The upshot of all this is that firms making GPS receivers that originally thought their business would only be with the U.S. military are now finding that this makes up only a very small fraction of their expanding market. Thus, the Desert Shield and Desert Storm demand for more GPS systems was only relieved by the emergency purchase of thousands of additional receivers from firms servicing the civilian market and by having the DoD not degrade GPS's signal quality.

Luckily, this time only we and our allies had GPS receivers in sufficient quantities to be militarily significant. Next time, we are not likely to be as fortunate. Certainly, one of the areas of greatest concern is the future link between GPS and missiles. The current generation of missiles -- SCUD and SCUD derivatives -- are quite inaccurate. In fact, during Desert Storm, these missiles missed fixed targets by as much as a kilometer or more.

What GPS and its differential upgrades promise are accuracies of between 5 and 100 meters. This roughly translates into an increase in lethality against fixed point targets of between 100 and 100,000-fold -- i.e., the kind of lethality increase previously noted with regard to the advent of nuclear energy in the mid-1940s.

Assuming our adversaries had large numbers of missiles to use against us or our allies, they could knock out or stun fixed airfields, air defense assets, ports, command centers, and military bases and depots with the same sort of pinpoint conventional munitions accuracies previously associated with our air operations against

First, it may be more difficult for our friends and forces to operate without being seen or heard, an advantage that was critical in our victory over Iraq. Second, these low-flying vehicles -- if configured or attack -- may perform many of the same missions as ballistic missiles -- but more accurately. And finally, all of these systems are likely to compound our theater air defense problems.

Are there any other futuristic proliferation problems the Defense Department worries about? The short answer is yes. In addition to the nonapocalyptic missile systems noted above, the Department is also concerned about the increasing diffusion of relatively secure command, control, and communications systems, militarily-usable satellite technology (particularly that related to imagery), and submarine technology. As I have noted in previous testimony, these technologies, like those associated with accurate cruise and ballistic missiles, may not be apocalyptic but nonetheless can have a strategic impact and will require military countermeasures that are currently unavailable.

In fact, with the exception of submarine technology, the rest of these items have clear civilian applications. Advanced computers for science can be used for encryption. Secure business communications systems can be used to conduct business or used to wage war. And satellites can be used for a variety of purposes.

With regard to the latter, our government and the MTCR have held that satellite launcher technology is interchangeable with ballistic missile technology and, therefore, is to be treated just as restrictively. This does not mean we will restrict access to

Iraq. The key difference here, however, is that our adversaries would be able to do this without an air force, i.e., with missiles alone. This may not be as apocalyptic a development as is nations getting nuclear bombs, but the military operational consequences could be every bit as devastating and strategic in their implications.

Because of the security concerns raised by GPS, DoD has worked with other agencies to develop controls that the Missile Technology Control Regime will incorporate into its annex. These controls would restrict sales of receivers that would operate at altitudes and speeds useful for ballistic missile applications and those specially designed for integration into unmanned aerial vehicles/cruise missiles.

The Cruise Missile Threat and Others

It will be difficult, however, to control exports of receivers that might be useful for the development of cruise missiles since these are, in many respects, identical to ones that would be useful to hundreds of thousands of owners of small planes. In fact, as we focus our energies on limiting the spread of ballistic missile technologies, other nations have begun to focus theirs on developing cruise missiles and unmanned aerial vehicles (UAVs) for both lethal and nonlethal military missions.

Whereas ten years ago it was difficult to find any Third World nation developing its own UAV or cruise missiles, now we find that there are well over 100 indigenous programs underway. These programs will pose a number of new challenges to our friends and forces abroad.

the peaceful benefits of space. It only means that, while launch services must be available on the world market, launch vehicles must not. Given the vast surplus of existing, cheap satellite launch capacity in the European space agency (ESA), the U.S. and elsewhere, this is readily done.

Besides satellite launchers, though, Defense is also concerned that whatever satellites do go up, do not end up targeting our friends or U.S. forces. Slowing the diffusion of these militarily-usable satellite technologies to possible adversaries or to unstable regions will have to be factored into our future military cooperation with all our allies.

Far more worrisome than these nonapocalyptic proliferation concerns, though, is the continued spread of chemical, biological (CBW) and nuclear weapons technologies. Although we can hope to cope defensively against current CBW threats, we may not have as much reason to be hopeful against advanced agents. As for nuclear weapons, these continue to present security threats.

Particularly disturbing in both cases is the increasing number of dual-use applications of the technologies associated with the spread of these weapons systems. With CBW, this has long been the case. With nuclear, we are now finding that nations are developing ambiguous nuclear facilities and purchasing dual-use equipment needed to develop dedicated weapons capabilities rather than try to buy specially designed nuclear weapons-related equipment directly.

Proliferation: A Defense Priority

There is no question but that DoD places a high priority on

my position and office were created and placed in the Office of the Assistant Secretary of Defense for International Security Affairs, rather than in offices dealing with either negotiations or export control policies.

In addition to developing policy options for DoD in the handling of particular export cases or negotiations, my office has been given the lead within DoD to conduct research concerning proliferation. Since my arrival in September of 1989, the number of projects has nearly doubled. We also have become increasingly involved in the coordination of the many DoD efforts that can help address the proliferation threats described.

DoD's non-proliferation goals are determined by the type or character of the proliferation being addressed. In the case of the apocalyptic proliferation concerns just noted -- particularly the nuclear threat -- DoD's goal is to do all we can to stop these developments with the hope that political or financial support for these projects will die. To some limited extent, our forces can be defended passively against the current generation of CBW threats. Efforts to advance the current threat by developing agents that exceed our current limited defense capabilities are developments we cannot afford to be blase about. In the case of nuclear, passive defenses are virtually nonexistent and the imperative to stop the development is clear.

With regard to the nonapocalyptic threats -- conventional missiles, non-lethal unmanned air vehicles, submarine, satellite

and command, control, and communications technologies -- DoD's goal is still to limit their proliferation with the caveat that even if we merely slow their arrival, this too can be militarily beneficial even if the program eventually is completed. In the case of delay, "enough" is until we can develop adequate military countermeasures -- e.g., defenses such as GPALs, shallow water ASW, new jammers, etc. -- to cope. Clearly, the less money one has to develop such countermeasures, the more time is needed to keep the threat at bay.

Condor II As A "Success"

A good example of a non-proliferation success that produced a clear-cut military benefit is the slowing of the Condor II program. The Condor II was at one time a missile development program by Argentina, Egypt, and Iraq, supported by suppliers from advanced industrialized nations. It originally was scheduled to be completed and on line producing missiles in Argentina, Egypt and Iraq well before Desert Storm. However, the missile was never fielded in any of these nations, much less fired in the Gulf.

Had this program been completed on schedule, our missile problems would have been much more daunting than those we actually experienced in Desert Storm. Just compare the Condor II with the SCUDs Iraq fired at us. SCUDs are World War II vintage technology; the Iraqis had acquired several hundred of them. The Condor II, on the other hand, is comparable to one of the most advanced missiles ever fielded, the Pershing II, and would have been manufactured in Iraq and could have been available in much larger numbers than were SCUD missiles. The SCUDs, including their upgrades, were notoriously inaccurate, missing their intended targets at times by a kilometer

or more. The Condor II, on the other hand, was designed to have accuracies measured in a few hundred meters or less making it orders of magnitude more lethal against point targets.

With such accuracies and the numbers serial indigenous production would have involved, Condor IIs could have been used to perform some of the strategic functions Iraq's air force and the SCUDs could not: to knock out or stun our air operations from local air fields, paralyze our logistical support from Saudi ports, and destroy our theater air defense units and fixed command centers. These missions, moreover, could have been accomplished without necessarily having to resort to chemical, biological or nuclear warheads. Conventional munitions would have been sufficient.

Finally, because the Condor was designed as a solid fuel, two-stage missile, it would have been more mobile (harder to find), capable of longer ranges, faster; and, thus, be much harder for our Patriot radars to detect than any SCUD.

For these reasons, even before the U.S. formally announced its adherence to the Missile Technology Control Regime (MTCR) in 1987, we assigned an extraordinarily high priority to blocking the missile's development with good results.

Several key principles were followed in this effort. First, we blocked exports even though "peaceful," civilian applications were claimed. In fact, the Condor was alleged by its developers to be a peaceful "scientific" rocket. Despite this, the U.S. joined with other supplier nations in denying exports to the Condor II program and continue to do so to similar programs -- whether they

were overtly military or allegedly for such "scientific" purposes as sounding rockets and space launch vehicles (SLVs).

Second, we focused our efforts on blocking critical technologies such as guidance, propellants mixing, production equipment and the like. Of course, we tried to block as many other exports to Condor II programs as we could. We understood, though, that we might not succeed in blocking all of them.

This brings us to the third principle, which is that our aim was and is to block enough technology to make a difference. Successful development of a ballistic missile like the Pershing II involves the integration or harmonizing of some quarter of a million parts, and it is a very expensive proposition. We do not need to block all of the quarter million parts in order to block the project as a whole. We consciously aimed, therefore, to prevent shipment of enough of the key items long enough so that financing or political support dried up or until we had an effective military means to cope with the threat once it arrived.

By this criterion, I think our efforts concerning the Condor so far have been worthwhile. Even though some components have slipped through, enough have been denied or delayed to impact the program. Additionally, Argentine and Egyptian governments actually decided to help slow the program. Consen, the multinational organization behind the missile's development, continues to have difficulty securing all of the technology needed to complete the program. Meanwhile, the U.S., Israel, and others are working on follow-ons to the Patriot (e.g., Arrow, GPALs), and on systems that will help us find and target mobile missile launchers more readily. Our hope is that a

sufficient amount of this work will be completed soon enough for us to cope if Condor-like missiles are ever deployed.

To the extent that our efforts against the Condor II were a success, what went into it? There were several key elements.

The first of these was intelligence. I am speaking not just of intelligence collection -- the amassing of raw reports -- but of analysis -- assessing and organizing this information. In the case of the Condor, for example, we had to stay on top of an extremely complex transnational procurement network, which at various times included organizations based here in the U.S., a multinational procurement organization based in Europe as well as international financing. Keeping tabs on this international network required a multilateral intelligence effort complemented by interagency cooperation in the United States.

We fully expect the requirement for this kind of intelligence effort to grow, not diminish, in the future, as those associated with Condor and other troublesome programs realize that simple ruses -- like the claim that a program is "peaceful" -- will not open the doors to the technology that they seek. Instead, more complicated clandestine purchasing networks that can obfuscate the nature, destination, and end-use of their purchases are expected.

Intelligence, however, is not enough. A second element -- action -- is essential. Domestically, in the case of Condor, we had to review our own exports -- matching intelligence about the Condor program with technical assessments of the significance and alternative uses of exports and a diplomatic understanding of the measures needed

to support our own export restraint with complementary restraint from other suppliers. This has resulted in the formation of interagency groups -- in the case of missile technology, the Missile Technology Export Control (MTEC) and the Missile Trade Analysis Groups (MTAG) -- that meet weekly to review approximately 1500 export cases annually.

Occasionally, our domestic actions must go beyond the channels of export application review to deal with exports conducted illegally. You are familiar with the case of Mr. Helmy, now serving a prison sentence for illegal activities in support of the Condor program.

Of course, no domestic enforcement program can stop technology transfers unless there is corresponding international enforcement. This brings us to the third key element: The need for international and diplomatic support. The establishment of the multilateral arrangements such as CoCom, the MTCR, the Zangger Committee and Nuclear Suppliers Groups, and the Australia Group set the general framework for international restraint. But when it comes to specifics, much more needs to be done. Our diplomats, customs officials, and intelligence specialists in the Condor case, for example, worked with their counterparts in MTCR partner governments to ensure that U.S. denials of exports were supported elsewhere and to identify Condor procurement overseas that needed to be stopped.

Sometimes, the identification of a specific export was enough to catalyze action by foreign governments. Sometimes, we needed foreign enforcement action to unravel complex procurement activities and to prosecute criminal activity overseas. Sometimes, we needed to go beyond MTCR partners to block the Consen network.

As you can see enforcement and administration of export controls is highly manpower intensive. In the Condor case we needed the involvement of hundreds of government officials around the world -- and a high enough priority to focus these officials on the effort.

Next Steps

Our hope and plan, of course, is to build on such successes. You asked what additional steps should be taken to assure this. First, we could do much worse than focus our attentions on effectively implementing the new authority the President and Congress have only recently put into place. As the testimony of the other witnesses should make clear, we are well on our way to doing this.

Second, we need to recognize that our export control assets are large, but not limitless; that we cannot stop -- and do not always necessarily have to stop -- everything of possible military significance to achieve our security objectives. As I tried to explain in the Condor II example above, the U.S. and the MTCR membership failed to stop all missile-related items from going to the Condor II program and Iraq. Indeed, some of the technology that slipped through did help upgrade Iraq's SCUDs. It would be a mistake, however, to use this to argue that our Condor II interdiction effort as a whole failed or that our control system is bankrupt. It's not. When we pick a target and stay focused, it does work.

In fact, to the extent that we did have problems blocking exports to Condor II -- and we did -- more often than not, it was because of a lack of authority caused by the fact that the item in question

was not yet on an existing control list. This the President has remedied in the U.S. by requiring the licensing of items -- whether they are listed on an existing non-proliferation control list or not -- if they contribute to a proliferation project of concern. The U.S. is seeking other nations' adoption of similar authority. Germany already has it; we hope others will follow suit.

This new project-oriented control authority will strengthen our ability to deal with troublesome exports. It will also place new, and possibly greater demands on our intelligence assets. Indeed, as we make more clear our desire not to support specific projects at specific destinations, there will be an even greater inclination for illicit dealers to do their dealings indirectly and to ship with misleading end use statements and phoney end user designations. We will have to be even more vigilant about possible sorts of third-party cut-out ruses and make sure that other supplier nations are as well.

Finally, I think we need to be leery of styles or trends. Ballistic missile proliferation has received the greatest attention. Certainly, it deserves attention, even more than it has already received. However, we need to be careful not to let this or other concerns make us less attentive to other proliferation matters. I believe this is particularly true in regard to nuclear weapons-related technology, which I believe will demand more of our attention in the years ahead.

This completes my testimony, Mr. Chairman. I would be happy to answer any specific questions the committee may have.

EXPORTS TO IRAQ

Senator BINGAMAN. Fine. Let me ask a question about the list that was prepared showing the very substantial numbers of exports that went to Iraq between 1985 and 1990.

Mr. Sokolski, have you reviewed that list, and do you know if that is \$1.5 billion?

Mr. SOKOLSKI. I have reviewed the list, and I understand that a very large portion of that dollar figure had to do with, I believe, a truck shipment that never went.

Senator BINGAMAN. So you dispute the \$1.5 billion figure?

Mr. SOKOLSKI. Well, I don't dispute the figure. I dispute how much of that was actually shipped.

REFERRALS TO DEFENSE DEPARTMENT

Senator BINGAMAN. Well, that wasn't the thrust of my question. The thrust of my question is, are there things on that list that, in your view, should have been referred to the Defense Department but were not?

Mr. SOKOLSKI. We are now talking history.

Senator BINGAMAN. Right.

Mr. SOKOLSKI. And I want to emphasize that point.

Senator BINGAMAN. Certainly.

Mr. SOKOLSKI. And history which, as Assistant Secretary Clarke pointed out, is unlikely to be repeated because of the new authority under the Enhanced Proliferation Control Initiative.

There were, as you well know, prior to our administration, disputes between Commerce and Defense over the shipment of items not on missile annex listings, things going to destinations that clearly suggested that the item in question, Hewlett-Packard computers, for example, would be for no good end purpose, that it would assist in a missile project.

The disputes then, which thankfully are behind us now, had to do with authority. Because the item in question wasn't on a missile annex listing, it was argued, and forcefully to be sure, that there was no authority to demand the license, much less deny it. That is no longer the case, and it's one of the first things that this administration focused on, making sure it would no longer persist.

TRANSSHIPMENTS/REEXPORTS

Senator BINGAMAN. Let me ask about referrals. There has been some testimony in the House by Mr. Klosske indicating that, as recently as a year ago—the spring of 1990—exports to Jordan be suspended; because

they would be transshipped to Iraq, and also that direct exports of certain items to Iraq be suspended.

First, is that the case where there are proposals to suspend shipments to Jordan by the Department of Commerce?

Maybe Mr. LeMunyon can respond to that, and what is our policy on referrals, or not referrals, but transshipments I guess is the right word?

Mr. LeMunyon. Mr. Chairman, the administration collectively reviewed export licensing policy not just toward Jordan, but toward a number of countries, including Jordan. I think in the context of that particular country that we felt that given the concerns that some had regarding transshipment, that our controls were adequate, and so they have not changed in any dramatic way toward Jordan in recent months.

When I say "adequate," I mean that, for instance, reexport controls, which have long applied on exports to Jordan and most other countries around the world, apply in that case; that the chemical, missile, biological, and nuclear weapons kinds of controls, as well as our CoCom controls, apply to Jordan, as they do most other countries. But the issue was considered by all the agencies involved, and it was our judgment that our controls were adequate and remain so.

JORDAN

Senator BINGAMAN. So, your view is that although Mr. Kloske made his arguments about exports to Jordan being suspended, the decision was made not to suspend them and that decision was correct?

Mr. LeMunyon. Well, I'm not going to comment on specific arguments made by one agency or another in the interagency process. I will say that the issue was considered carefully, and thoroughly, and that the administration decided that our controls were adequate and that they remain adequate.

Senator BINGAMAN. Now getting away from Mr. Kloske's statements, there have been a series of statements in the media about U.S. shipments of spare parts and other equipment to Jordan as recently as December of last year, 5 months after the invasion of Kuwait, and the claim is that those items that we were continuing to permit shipment of to Jordan were then reexported into Iraq.

Is it your position that those reexports did not occur and that this is not a problem? Is that what you're saying?

Mr. LeMUNYON. I think Assistant Secretary Clarke has some more insight on that specific question. I will say that overall there were very few, and continue to be very few, license applications that the Commerce Department receives for exports to Jordan or reexports out of Jordan, and I am not aware of anything that is coming through our licensing process that meets the mold of your question.

Senator BINGAMAN. Mr. Clarke, perhaps you could respond to some of the allegations that the media has had in recent weeks about us

delivering items—military spare parts and other equipment to Jordan—that were then reexported, and about us continuing to do so even up through the end of last year.

Mr. CLARKE. Mr. Chairman, we know of several instances where there have been reports in the media. Let me try to go through the three of which I am aware.

There was a report that there were ammunition boxes found in Kuwait marked for delivery to Jordan, and the question was did that occur after the U.N. embargo went into effect. We have investigated that thoroughly, and we have been unable to find any Iraqi Army ammunition in Kuwait that was shipped from Jordan after the U.N. embargo went into effect, or that was of U.S. origin.

The second case we know about are allegations in the press that spare parts from U.S. Hawk missiles went to Jordan and then into Iraq. We investigated that thoroughly by a variety of means that I can't go into publicly, and we found no evidence to support that claim.

Throughout the war, we carefully monitored the shipment of U.S. spare parts to Jordan. Some shipments were held up on the docks while the investigations were carried out. There was a thorough investigation by the Customs Bureau, the U.S. intelligence community, and shipments were held up pending those investigations.

With regard to the allegations in the Financial Times about whether or not the Commerce Department asked for an investigation, and whether or not such investigation occurred, Mr. Chairman, I would like permission to put into the record of this hearing—rather than my reading it because it's somewhat lengthy—the White House statement on this issue from Marlin Fitzwater from several days ago; I think it provides a definitive answer to that allegation in the press.

Senator Bingaman. We'll be glad to include that in the record.

[White House statement of Mr. Fitzwater follows:]

WHITE HOUSE STATEMENT OF MR. FITZWATER

Q Can you give us some kind of an authoritative response on the story in the Financial Times of London, which alleges that the United States, in one way or another, approved of the shipment through Jordan of military supplies to Saddam's regime up through December, or until December?

MR. FITZWATER: Okay. Whenever allegations of sanctions violations were received, the administration acted promptly and forcefully. In over 800 cases we asked foreign governments to investigate information on possible sanctions violations.

In the case of Jordan, we were aware of several Iraqi front companies that were operating in that country and asked the Jordanian government to investigate our information. The Jordanian government cooperated in all such investigations. The effectiveness and thoroughness of the sanctions imposed on Iraq after the invasion of Kuwait have no modern parallel. We felt they were very successful.

The Department of Commerce in December 1990 asked for the views of other agencies on the possibility of suspending some special licensing privileges for companies operating in Jordan. The information was immediately brought to the attention of the interagency group charged with monitoring compliance with the sanctions. That interagency group, with Commerce's full participation, evaluated all available intelligence information and determined that the individual companies that had special license privileges in Jordan were not the Iraqi front companies that were of possible concern for violating the sanctions.

There was no intelligence information nor other information offered by the Department of Commerce that diversion of items shipped legally to Jordan was occurring.

The Commerce Department was informed in writing of the interagency review with a recommendation that innocent Jordanian companies not be punished for the violations of a few known diverting companies who were being closely monitored.

There were other allegations in that story about Commerce proposals for tightening export controls, which also are false. The senior interagency group that addressed these matters last spring, in fact, approved the Department of Commerce recommendations without dissent. Responsibility for implementation of those measures then passed back to the appropriate agencies, including Commerce.

There was no subsequent indication from Commerce that there was any problem in the implementation of its recommended actions.

Q So the bottom line would appear to be, then, that you don't think it happened, but if it did happen, you didn't know about it happening, and whatever reports that were of anything like that you tried to stop, or you tried to stop it from happening. Is that right?

MR. FITZWATER: In effect, it didn't happen, yes. We were licensing products, of course, as you all know, for sale to Middle Eastern countries prior

to August 2 and after that. But the allegations in this article — everything is all jumbled up and it's kind of hard to sort them out. But that's why I had a prepared statement that went through it all.

But basically, it's just not right. I mean, every allegation was checked out. We looked into all the licenses and the Commerce Department carried out its duties.

Q Well, there's a specific point in the article that says that Bob Gates personally got a warning in December about the transshipment of these U.S. arms into Iraq and Jordan. Is that also untrue?

MR. FITZWATER: Yes. That's the one I referenced in this statement that says it was all checked out. The investigative—

Q We got a warning that he checked it out?

MR. FITZWATER: The Interagency group was notified, as I said in here, which Gates chaired. And they looked into it, passed the information back to the Commerce Department, as they were supposed to do.

Q Perhaps I could try to unscramble some of this. Could you perhaps tell us what the explicit policy, then, change was since the interagency meetings in the late spring, and what mechanisms the United States government used to actually block or check out these shipments?

MR. FITZWATER: I don't have those kinds of specific details, no.

Q What was the policy change you outlined in your response to this article? It was a specific policy change.

MR. FITZWATER: The policy change was the one set by the United Nations—the sanctions.

Q No, the United States government policy change. Because as you're well aware, there was no explicit control over arms exports to Jordan through this period.

MR. FITZWATER: There are controls on products according to the normal licensing procedures. Product controls. That's what the Commerce does, is they administer the licensing approval process for individual categories of products.

Q I don't believe — the Commerce Department, as regards Jordan, does not have explicit power to intervene and scrutinize these kinds of products. This is a matter which is deemed to be part of foreign policy discretion.

MR. FITZWATER: They have a program of licensing approval that has categories of products, all of which have to be reviewed for sale and licensed and received. If you're talking about products that don't have to be reviewed, well, the, yes, they don't have to be reviewed.

Q Let me just—

MR. FITZWATER: They don't have country-by-country. I don't think the Commerce Department has a list of countries, do they? No, their licensing is by product category, not by country.

Q Just one — please just one last question before this passes on. Could you identify the names of the Iraqi front companies in Jordan for us, please?

MR. FITZWATER: I don't have it with me. I'll have to check and see whether we can do that or not.

Q Are you prepared to release the names of those companies?

MR. FITZWATER: I don't know whether we can do that or not.

Q Are you prepared to release the names of those companies?

MR. FITZWATER: I don't know what the legal circumstances of that are. We'll sure ask, but I don't know. We will if it's public information; if it's not, we won't.

Q In those 800 cases you investigated, did any of them result in materials not being exported?

MR. FITZWATER: I don't think I have that.

Q What was the result of those more than 800 cases?

MR. FITZWATER: I don't have the results. I can't report the results on all 800 cases. I just don't know.

Q Was anything ever stopped from being shipped anywhere over there?

MR. FITZWATER: I don't know.

Senator BINGAMAN. Let me just be sure that I understand. Your basic position is that there was no shipment to Jordan of military spare parts or other equipment, which then went on to Iraq after the time that the U.N. embargo was put in place?

Mr. CLARKE. As far as we know, and we tried very hard with the complete assets of the U.S. intelligence community to find out if those allegations were true.

Mr. Chairman, you have to understand that when those allegations were made we had not yet gone into combat. We knew we were going to go into combat. We did not want to be in the situation where American boys were going to be at risk from U.S. arms transshipped through Jordan or any other country. We pulled out all the stops investigating whether or not those allegations were true, and we found no support of those allegations.

Senator BINGAMAN. Mr. Sokolski, is that consistent with your information in the Department of Defense?

Mr. SOKOLSKI. In my understanding, correct. This issue was worked more closely, given the character of the transfers, by the Defense Trade Security Agency, but I was coordinating on that work, and I believe this is correct.

REFERRALS TO DoD

Senator BINGAMAN. Let me ask what the procedure is. I think, Mr. LeMunyon, you said that on this business of transshipments or reexports that the procedures that have been in place have been reviewed, and they are totally adequate. What is the Defense Department's role in this issue of referrals?

Mr. Sokolski, could you describe that and state whether you think that that is as it should be at this time?

Mr. SOKOLSKI. Well, the key thing to keep in mind is that the Defense Department is not a licensing agency. The key authority that Congress has given for licensing is to State and Commerce.

What Defense receives in the way of referrals are those things that both State and Commerce send to us, and we review them. So, the interagency groups that we participate in look at cases that State and Commerce present.

Senator BINGAMAN. Well, the problem that we got into before, again talking about history, was not that Defense had let things through that were called to Defense's attention, as I understand it. It was, rather, that licenses were granted for the export of some items that were not on your list necessarily, but that, at least with today's retrospect, you wish had been passed by Defense so that Defense could have raised an objection.

I guess what I'm asking is has that problem been fixed? Is there now a capability on the part of Defense to know what in fact is being

approved so that you can in essence second-guess Commerce and Defense as to whether or not something should be referred to you?

Mr. SOKOLSKI. Well, first of all, there has been agreement that—any and all items—going to a certain collection of countries—and I'll keep those countries' names off the record—will be referred.

Also under the EPCI, items, whether they are on proliferation control lists or not, going to destinations of concern, are to be sent to the interagency group where Defense sits as a member and will have a chance to take a look.

We, as the technical agency on missile matters, do a lot of support work for the MTAG and MTEC working groups that review these cases. So more items will now come before that group.

Mr. CLARKE. Mr. Chairman, if I could just amplify on that.

Senator BINGAMAN. Yes, go ahead, Mr. Clarke.

Mr. CLARKE. Again, with regard to the State Department's licenses, the export of defense goods and services, we now have placed Defense Department officers in the Office of Defense Trade Controls at State. We have Army, Navy, and Air Force officers in that office reviewing licenses to integrate the process as thoroughly as possible. That's the first step. After that initial cut, licenses are referred physically to the Defense Department for review.

DoD AUTHORITY

Senator BINGAMAN. I understand that you've integrated people. It's still true though, is it not, that the Department of Defense has no statutory authority to object or raise concern with regard to anything that is not referred to it? I mean the licensing authority is still with Commerce and State, and to the extent that you want advice from DoD, you can ask them to participate and get that advice?

Mr. CLARKE. Well, the President in his own rules and regulations, which are not statutory but an Executive Order National Security Directive, has created a system of license review, and Defense and other agencies sit on the committees at every level. An Assistant Secretary of Defense can request any license be reviewed on an interagency basis, and within a fixed timeframe it has to be reviewed. If the Secretary of Defense objects to the result of that process, the Secretary of Defense can request that licenses be reviewed at the Cabinet level.

So under internal executive branch procedures, there is a system whereby Defense can review licenses at every stage. If it doesn't like the result of the review, if it wants to stop a case and the decision has been made by State or Commerce to go ahead, the Defense Department can escalate that case to the Assistant Secretary, the Under Secretary, and the secretariat level, and within fixed timeframes those decisions have to be made.

So Defense has, as other agencies have, every opportunity to cause licenses to be reviewed and, if they don't like the outcome, to escalate the decision.

Senator BINGAMAN. Congressman Arney.

Representative ARMEY. Thank you, Mr. Chairman.

I should point out that I'm not on the House Foreign Affairs Committee, the Energy Committee, the Commerce, or Armed Services Committees. So, sometimes when these things come to my attention, they come to my attention on the floor, and they seem a little mysterious.

I also have a basic fundamental predilection that this country should have, as its policy posture, a generalized disposition to neither restrict exports nor subsidize exports unless there is a justifiable national interest for making an exception.

It strikes me that the clearest and most obvious case where you would have a national interest in restricting an export would be with respect to defense matters, and that Defense would have the expertise to best judge that.

Now within that sort of framework of dispositions, I find myself on the floor facing an amendment to the Defense Authorization bill—always that bill with the most amendments of any bill that ever comes to the floor—somewhat confused about what this is, because we always speak to each other in acronyms around here; and I get a shorthand version that says, oh, this is a turf war between the State and Defense Departments, or Commerce and Defense Departments; and the quick and dirty answer is I always vote with Defense. They are the best judge of this.

Now I think this is a very bad way to make a decision on such things as this, because then it becomes a matter of where is the political leverage on the floor and where are the easiest answers on the floor.

ENHANCED PROLIFERATION CONTROL INITIATIVE

Therefore, I gather that the Enhanced Proliferation Control Initiative is a recent innovation of the executive branch designed to work out these differences. I hope I'm gathering this correctly. I think I'm seeing some indication that perhaps things are changing from what we have seen in the high drama moments in the last 2 or 3 years on the floor, where such events as I have just described occurred.

Does the EPCI in fact exist; does it have staffing; does it have a budget; is there an allocation of these resources among the entities involved; is it a functioning entity; and does it constitute from an administrative point of view a way to resolve these sort of ad hoc issues that ought never to be brought to the floor by virtue of a parochial interest amendment?—which is what I think happens.

In other words, as you might guess, there are some Members of Congress who would be willing to see us export item *x* simply because it's made in their district, and the exportation of that item would mean jobs for their district. That's not a common thing, of course, but it does happen. Then you have the confusion that happens when you wrap a special interest amendment around political polemics in floor debate. So, going back to my point, how real is EPCI, and does it perform the administrative tasks that I'm hoping it does?

Mr. CLARKE. I think EPCI is a shorthand for a series of regulations that are new and allow us to do more than we could before, and they are Commerce Department regulations. Mr. LeMunyon should probably answer that part of the question. But in terms of the referral issue, interagency coordination to ensure that that occurs, the two things that have happened to ensure that are: First, the Proliferation Policy Committee and its subgroups that all agencies sit on and, second—

Mr. ARMEY. How recent is this group?

Mr. CLARKE. That was created 2 months after the outset of the administration. The subgroups have accrued during the course of the last 2 years.

The second thing I think you're aiming at Congressman, the thing that has made it possible for all agencies to feel like they are getting a fair break on the decisionmaking, is something that came out around the same time as EPCI. There was a Presidential decision on the licensing process that I just referred to that ensures that every agency has a right to escalate licensing decisions if it doesn't like them. That system is in effect, it's working, and I think everybody feels all around the executive branch that they are getting a fair shot at looking at licenses. If they don't win, they have a chance to escalate it and cause the spotlight to go on that decision within the Executive Branch, not on the floor of the House and not on the pages of the newspapers.

Representative ARMEY. Mr. LeMunyon.

EPCI AND CoCOM

Mr. LeMUNYON. Just as a couple of additional comments. The EPCI represents legal authority. The regulation, and I would be glad to supply the committee with a copy, does not get into the details of executive branch administration on how a case is handled. It spells out additional chemicals, equipment, citizen participation and other items for which an export requires a validated license prior to the item or the citizen engaging in activities or in moving overseas. As far as administration and resources, they have certainly been in place at the Commerce Department in the export control area for a number of years. We have authority for controlling CoCom listed items, as well as dual-use nuclear items, supercomputers, and some of the other issues I've mentioned.

Certainly as the control regimes change, our focus internally in a relative sense has moved away from the CoCom controlled items and more toward those items of proliferation concern. When examining our control system, the number of license applications, and the kinds of destinations that exporters are applying for, proliferation controls in a relative sense are taking more prominence. So that's just a natural activity. But certainly the administration of the controls, the authority, the budgets, the resources are there, and we're quite satisfied with them.

Representative ARMEY. Let me ask Mr. Sokolski for a moment. I am most familiar with CoCom, again, from floor debate where the question is, should this item or should it not be on the list?

Mr. SOKOLSKI. Right.

Representative ARMEY. My understanding is that this is a list of items that we feel should be protected and where we have of course a hands-on ability to restrict the ability of American suppliers to provide this to a particular country. To what extent are we able with this procedure or the relationships that we have with other nations to restrict other nations from supplying. Because one of the things I often hear when somebody wants something off the list is, if they are not going to get it from us, they are going to get it from somebody else. So, therefore, we might supply them.

CoCOM AND PROLIFERATION

Mr. SOKOLSKI. Well, in the case of CoCom, as you know, everything is done by consensus. The bad guys are clear cut. There is no problem there. You don't have to worry about trying to determine whether a certain country is your ally or isn't. You know that you have a problem with the Soviet Union. So all you do is go by the numbers. You get a consensus agreement that certain categories of items will or will not go, and it not only stops you from sending it, but it stops the other members of CoCom from sending it. Now that's East-West.

Nonproliferation doesn't work that way, and with good reason. It's different. We're talking about shipping dual-use items like CoCom does—but not to the Soviet Union—but to countries like Israel, Egypt, Pakistan and South Korea. These are our allies. So the question isn't whether or not to ship something as a broad category by consensus. The question is whether or not the item in question is going to contribute to an unsafeguarded nuclear facility, a missile project of concern, or whether it's going into an unstable region, as identified by the EPCI for CBW purposes.

Now with that in mind, what happens in most of these nonproliferation regimes is we have a very sensible approach, and that is a no undercut approach. This means that if one country in the various regimes denies something because it's concerned about the proliferation concerns, the other members are not to ship the item, and they are

notified. This works, and in the example I used in the case of Condor it worked very effectively. So, it's slightly different. It's not quite as black and white and clear cut, but then the problem isn't clear cut.

THE RUSSIANS AND THE CHINESE

Representative ARMEY. The problem then is—I mean Iraq got its weapons from Russia—I mean the SCUD is obviously the first best clear example. Is it possible to expand this CoCom relationship to include participation by, say, the Russians and the Chinese? Is it possible to do that without incurring the exorbitant costs of the reluctance to participate by way of some of our other allies? I mean, it seems to me, the maverick nation is where we're going to end up focusing our attention. If we deny missiles to Iraq and the Soviets are pouring them in, I don't know how much we gain.

Mr. LeMUNYON. I think, to volunteer an answer, Congressman, it would be awkward for CoCom to take on that responsibility, since the primary focus of CoCom controls continues to be the Soviet Union. So to have the Soviets at the table negotiating other aspects of export controls would be awkward. It's something that certainly could be appropriate over time in some of the other proliferation regimes.

Mr. Clarke. I think, for example, the Soviet Union is a member of the Nuclear Suppliers Organization. We would like it to be a member of the Missile Technology Control Regime, and they said in the Washington Summit last year that they wanted to be a member of the Missile Technology Control Regime, and that they were observing the guidelines. We welcomed that.

We are not entirely sure they are observing the guidelines, and we are having a dialogue with them about that. We don't want quite yet to have them be a member until we are satisfied that they are actually doing what they say they are doing.

We've already talked about the Chinese. The Chinese are much more of a problem.

There is also a problem with bringing renegade nations into control regimes, because the control regimes share intelligence. When one of these subcommittees that I pointed to gets a piece of intelligence that in part is going from country *a* through country *b* to a project in country *c*, we use that intelligence. It marches through the Australia Group and through the Missile Technology Control Regime.

A big part of the meeting when the partners get together twice a year is taken up with intelligence briefings. So it poses a real problem to bring some of these outer nations into organizations like that. In some cases, it's a bit like bringing the fox into the chicken coop. That doesn't mean we can't work with them to have them live up to guidelines, but having them be members of the organization sometimes is not the appropriate solution.

INTERAGENCY PROCESS

Representative ARMEY. My last question. I gather that you three are prepared to tell me that with the innovations that came just recently and that have been described, you have a more effective, or let's say an easier, ability to come to a decisive agreement without, what I would call, interagency disputes, turf wars, and so forth, as compared to say 4 or 5 years ago. Is that correct?

Mr. CLARKE. I think what I'm prepared to say is that if there are interagency disagreements, they will surface and be resolved rapidly, and there will be an opportunity to escalate it for those who feel that they have not had an adequate hearing. We decided on this approach so that issues don't lie around for months not getting decided; so that issues don't get decided by just one Department; and so that Departments don't feel, or staff members of Departments, don't feel that their only recourse when they are overruled in the interagency debate is to go and leak sensitive intelligence material to the press.

I think we have a process now that is adequate to take into account the concerns of all agencies, to bring the technical expertise to bear on a schedule, and to get decisions. Not everyone will always be happy with all the decisions, and I wouldn't want it that way. I wouldn't want unanimity all the time, but I do want, and I think what we do have, a system whereby we can bring to bear all the expertise, and get decisions aboveboard in the open rapidly, with a process for escalation if people don't like the outcome.

Mr. LEMUNYON. I would welcome a chance to second that and add only that in the specific case of license application processing, one of the elements of the President's directive last December said specifically that all applications that are referred and remain outstanding because of disagreements must be considered by a political level Advisory Committee on Export Policy no later than the 100th day after processing. So issues are brought to closure one way or another, security concerns are addressed, and exporters also get responsiveness from their government.

Representative ARMEY. Well, gentlemen, my impression is that State and Commerce are much more happy more often than Defense. I'm just getting that impression here. Is that a fair impression for me to have?

Mr. SOKOLSKI. No. I think that's mistaken. The fact of the matter is that many of the suggestions that went into the Enhanced Proliferation Control Initiative came from Defense precisely to put these kinds of disorders—heralded by some of the witnesses that will come to you momentarily—behind us. So I think it would be a mistake in the extreme to characterize it that way.

I think, in addition, the case review system as far as disposing of cases and getting higher level political resolution was long overdue, and I think that the ACEP system in fact is working. Previously, cases would just sit and not get properly referred; and there is no dispute like

a festering dispute to be a problem. I think we're making headway in a serious fashion now by having these kinds of reforms worked out among ourselves.

Representative ARMEY. Thank you.

Senator BINGAMAN. Well, thank you.

I would just like to clarify one thing before we go to our next panel.

SOVIET UNION AND MTCR

Mr. Clarke, as I understand your position, it is that the Soviet Union would like to join the MTCR or participate in it, but at this time we are not convinced that that would be in our best interest. In the case of China, they don't want to participate, and, based upon the problems we have with their actions, we don't want them in either; is that right?

Mr. CLARKE. We're one member of the MTCR, and membership decisions are made by all the partners. Without disclosing in public what the private discussion has been within the MTCR about Soviet membership, let me just say that all members of the MTCR have said that they would welcome Soviet membership when the Soviets are prepared to abide by the guidelines. We're not going to change the guidelines to get them to join.

The Soviets in the Washington Summit statement last June said that they would live up to the guidelines, and they would like to join the MTCR. Let me say—for the record publicly and I can tell you more privately—that we have and the MTCR, as an organization, has an ongoing dialogue with the Soviets that we hope will result in their joining.

CHINA AND MTCR

With regard to the Chinese, there is some question about their performance, and we've already had a colloquy on whether or not they are abiding by the guidelines. They don't want to be a member, and so the issue of membership doesn't arise. We do want them to live up to the guidelines, and they have said using elliptical Chinese formulas that they are. We would like them to do a better job, and we have a very intense dialogue with them about their performance.

Senator BINGAMAN. All right. With that reference to a very intense dialogue, I'll dismiss the panel and thank you all very much.

I would ask the second panel to please come forward.

Let me just indicate that we will ask a few additional questions in writing, and if we could prevail upon you to respond to those, we would appreciate it.

[Additional questions and supplementary responses subsequently supplied for the Record:]

LETTER OF REQUEST AND SUPPLEMENTARY RESPONSE OF MR. LeMUNYON

MEMBERS

PAUL E. BARNES, MISSOURI
 CHAIRMAN
 LLOYD BENTSEN, TEXAS
 EDWARD B. CONYER, MASSACHUSETTS
 JEFF DIMMICK, NEW MEXICO
 ALBERT EISEN, ALABAMA
 RICHARD H. ROY, TEXAS
 WILLIAM V. ROY, ALABAMA
 STEVE SYMMS, OHIO
 CORNELL W. BROWN, MISSOURI
 ROBERT C. SMITH, NEW HAMPSHIRE

STEPHEN A. BUCKLE
 EXECUTIVE DIRECTOR

MEMBERS OF REPRESENTATION

LEE H. ROSENTHAL, MISSOURI
 VICE CHAIRMAN
 DAVID B. BONIOR, MISSOURI
 JAMES E. SCHLESER, NEW YORK
 FORTNEY PETER STARR, CALIFORNIA
 STEPHEN A. BOLAND, NEW YORK
 STONE BRADY, MASSACHUSETTS
 ROBERT E. ANDREY, TEXAS
 CHARLES P. BIVILL, OHIO
 OLYMPIA J. SNOWS, MARYLAND
 HAMILTON PERKINS, NEW YORK

Congress of the United States

JOINT ECONOMIC COMMITTEE

LEGISLATIVE PURSUANT TO SEC. 204 OF PUBLIC LAW 954, 70TH CONGRESS

Washington, DC 20510-6602

May 7, 1991

James M. LeMunyon
 Deputy Assistant Secretary for Export Administration
 U.S. Department of Commerce
 Washington, D.C. 20230

Dear Mr. LeMunyon:

I stated at the close of the hearing on April 23, 1991, that I would send you additional written questions for you to respond to. Please respond to the following questions and requests for information:

1. Provide a list, in the same form as the list of exports to Iraq released to the public in March, of all exports during 1988-1990 to Argentina, Brazil, China, Egypt, India, Iran, South Korea, and Taiwan. The list should be broken down for each country and should indicate the applications approved; rejected, or returned without action, referrals to other agencies, the type of equipment and the end user. There should be one version containing the names of the exporters and one sanitized version.
2. In his written statement, Gary Milhollin cites 3 instances of exports to Iraq - one involving the export of lasers to the Iraq military, a second involving the export of quartz crystals used in radars, and a third involving frequency synthesizers - in which the commodity control numbers assigned to the items were also on the missile technology control list. They therefore should have been referred to the State Department but were not, according to Mr. Milhollin:

Were these items on the missile technology control list and were the license applications referred to State?

If the items were on the missile technology control list, why were they not referred to State?

Were any of the items referred to the Defense Department? If so, what actions were taken by Defense? If not, why not?

How do you respond to the criticism that the exports were dangerous or sensitive technologies, intended for military end users, and should not have been approved?

3. According to Mr. Milhollin's testimony, a June 1990 GAO report stated that the Defense Department had informed Commerce in November 1986 that the Iraqi military facility known as Sa'ad 16 was involved in missile development, and that press reports linked that facility with other weapons of mass destruction. Mr. Milhollin also states that Commerce knew what was going on at Sa'ad 16 as early as 1985. How do you respond to Mr. Milhollin's allegations?

4. Mr. Milhollin testified that U.S. intelligence officials began to brief other agencies about the Iraqi end user network in 1987.

When were Commerce officials briefed by U.S. intelligence about the Iraqi end user network?

Is it true that in 1989 the Commerce Department refused to attend a meeting called by the CIA to discuss Iraq?

5. Was it appropriate for Commerce to approve exports intended for Sa'ad 16 after 1987? If so, why?

6. Under the Missile Technology Control Act enacted last year as Title XVII of the FY 1991 Defense Authorization Act, the Commerce Department is required to refer all items on the missile technology control list to the Defense Department for consultation if the exports are destined for any "countries of concern."

Which countries and projects of concern have you identified?

Administration officials said last year during the defense authorization conference that an unclassified list would be very short. What are the advantages and rationale for classifying the lists?


To what extent has the act been implemented in general and when will full implementation occur?

7. Explain the screening process whereby the Energy Department is permitted to screen applications for licenses, and to indicate the types of exports it is interested in, and discuss whether this screening process differs from the one employed for the Defense Department. If it does differ, explain why.

So that we can close the record of the hearing, please forward the response to my requests no later than Tuesday, May 24, 1991.

Your cooperation will be appreciated.

Sincerely,



Jeff Bingaman, Chairman
Subcommittee on Technology
and National Security



UNITED STATES DEPARTMENT OF COMMERCE
Bureau of Export Administration
Washington, D.C. 20230

January 13, 1992

Honorable Jeff Bingaman
Chairman, Subcommittee on Technology
and National Security
Joint Economic Committee
Washington, D.C. 20510

Dear Mr. Chairman:

Thank you for your letter dated May 7 regarding my April 23 testimony. I regret the long delay in responding, but I wanted to ensure the replies to your questions are as complete and accurate as possible.

Enclosed are my responses to your follow-up questions listed in your letter. I hope the information is helpful in addressing the issues discussed at the hearing.

Please note that for purposes of accuracy and consistency, references to Export Control Classification Numbers (ECCNs) are provided in the numbering system used in discussions at the April hearing. The numbering system was revised on September 1, 1991.

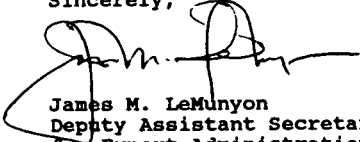
You should be aware that the export licensing information furnished herewith is protected by the confidentiality provisions of Section 12(c) of the Export Administration Act of 1979. This includes the enclosed printouts, both the version that contains licensing information, including names of exporters and the version that contains the same licensing information with the exception of the names of exporters. This information is provided to you as Chairman of the Subcommittee on Technology and National Security of the Joint Economic Committee. Section 12(c) states that such information may not be disclosed "unless the full committee determines that the withholding of that information is contrary to the national interest."

In providing this information to you, I would like to underscore the importance of protecting the information from further disclosure. The information provides details of U.S. exporters' business transactions. Among other concerns, release of the information could discourage exporters from participating, or being fully candid, in the export licensing process.



If you have any further questions, please contact Mr. Mark Neuman, Director of Congressional Affairs for Export Administration on (202) 377-0097.

Sincerely,

A handwritten signature in black ink, appearing to read 'James M. LeMunyon', written over a horizontal line.

James M. LeMunyon
Deputy Assistant Secretary
for Export Administration

Enclosures

cc: Honorable Richard Arney
Ranking Minority Member

Follow-up Questions from April 23 JEC Hearing

Question 1: Provide lists of exports to Argentina, Brazil, China, Egypt, India, Iran, South Korea and Taiwan for the period from 1988 to 1990. The list should be broken down for each country and should indicate applications approved, rejected or returned without action, referrals to other agencies, the type of equipment and the end user. There should be one version containing the names of the exporters and one sanitized version.

Answer: Enclosed please find two versions of the information you requested, consisting of computer printouts summarizing applications for licenses to export to the above-named countries for the period 1988-1990. One version contains the names of exporters and the other does not. Each version is divided into separate reports for licenses that were approved, rejected, or returned without action (RWA'd). The reports include the following information for each export license application listed: case number, dates of receipt of and final action on the application, ultimate consignee (end user), Export Control Classification Number (ECCN) for the item, description of the item, end use of the proposed export, dollar value of the proposed export, and record of interagency referrals. As previously noted, one version of the printouts contains the names of U.S. exporters in addition to the above-described information.

Please be advised that the information contained in the printouts is protected by the confidentiality provisions of section 12(c) of the Export Administration Act of 1979, as amended. This includes both the version that contains the names of exporters and the version that contains the same licensing information with the exception of the names of exporters. Section 12(c) states that any such information may not be disclosed "unless the full committee determines that the withholding of that information is contrary to the national interest."

Question 2: In his written statement, Gary Milhollin cites 3 instances of exports to Iraq - one involving the export of lasers to the Iraq military, a second involving the export of quartz crystals used in radars, and a third involving frequency synthesizers - in which the commodity control numbers assigned to the items were also on the missile technology control list. They therefore should have been referred to the State Department but were not, according to Mr. Milhollin:

- a) Were these items on the missile technology control list and were the license applications referred to State?

Answer: Lasers are controlled under ECCN 1522. Of the items identified under ECCN 1522 (lasers), only "equipment containing lasers" and "measuring systems which have lasers" are controlled under the Equipment and Technology Annex of the Missile Technology Control Regime (MTCR). Lasers themselves are not controlled for missile technology reasons. Contrary to Mr. Milhollin's allegation, a database search indicates that no lasers were approved for export to Iraq between February 1, 1988, and February 20, 1988. The database review further revealed that the license Mr. Milhollin may have been referring to (B286904; see Attachment A) was improperly classified under the ECCN containing lasers and was subsequently properly classified under 1091. ECCN 1091 is not included on the MTCR Annex and therefore would not have required referral to the Departments of State, Defense or Energy.

Quartz Crystals - Quartz crystals are controlled under ECCN 1587. Of the items identified under ECCN 1587, only "temperature compensated crystal oscillators" are controlled under the MTCR. All other types of quartz crystals are controlled solely for national security reasons. The two applications for the export of quartz crystals we believe that Mr. Milhollin was referring to in his written statement (B290664 & B346115) were not referred to State for review because the equipment did not meet the control level of the MTCR Annex (see Attachment A).

Frequency Synthesizers - Frequency synthesizers and equipment containing frequency synthesizers are controlled under ECCN 1531. Only synthesizers containing controlled standards or temperature compensated crystal oscillators, and airborne equipment/receivers and transmitters using frequency synthesizers are controlled under the MTCR. No other type of frequency synthesizer is controlled under the MTCR. The four applications for the export of frequency synthesizers (D000637, D032605, D033332, and D055821) we believe that Mr. Milhollin was referring to in his written statement were not referred to State for review because the equipment did not meet the control level of the MTCR Annex (see Attachment B).

b) If the items were on the missile technology controls list, why were they not referred to State?

1 Please note that the end use statement for license #D055821 is the same as was provided in response to a separate request from Congressman Barnard. The following phrase, contained in the BXA database, was not included in the printout: "According to our information the end-user is involved in military activity."

Information furnished herewith is subject to the provisions of Section 12(c) of the Export Administration Act of 1979, 50 U.S.C. App. 2411(c), and its unauthorized disclosure is prohibited by law.

Answer: As noted, the items in the license applications that we believe were referred to by Mr. Milhollin in his written statement were not referred to the State Department for review because the equipment did not meet the control level of the MTCR Annex.

c) Were any of the items referred to the Defense Department? If so, what actions were taken by Defense? If not, why not?

Answer: None of the license applications for lasers, quartz crystals or frequency synthesizers that we believe were referred to by Mr. Milhollin in his written statement were reviewed by the Defense Department, as agreed-upon interagency procedures did not call for such referral at that time. Defense had delegated authority to the Commerce Department for these particular items.

d) How do you respond to the criticism that the exports were dangerous or sensitive technologies, intended for military end users, and should not have been approved?

Answer: Items which have been identified for control under the MTCR are indeed sensitive technologies and should not be approved to missile related end users. However, as noted, none of the items that we believe was being referred to by Mr. Milhollin in his written statement was an item meeting the technological thresholds identified for control under the MTCR.

Question 3: According to Mr. Milhollin's testimony, a June 1990 GAO report stated that the Defense Department had informed Commerce in November 1986 that the Iraqi military facility known as SA'AD 16 was involved in missile development, and that press reports linked that facility with other weapons of mass destruction. Mr. Milhollin also states that Commerce knew what was going on at SA'AD 16 as early as 1985. How do you respond to Mr. Milhollin's allegations?

Answer: SA'AD 16 is an Iraqi research and development complex located near Mosul. The facility contains some 76 different laboratories and workshops. Some of these have been reported to be involved in supporting the Iraqi missile program.

Since the establishment of the MTCR, Commerce has not approved any sales of items on the MTCR Annex to SA'AD 16 or to any other facilities in Iraq. A March 1990 GAO report concluded that "[w]e did not find that any MTCR-restricted items had been approved for export to Iraq since the effective date of the MTCR."

With the advent of the MTCR in April 1987, Commerce reexamined previous approvals to Iraq. Two previous license approvals for computer exports were suspended based on information about the

Information furnished herewith is subject to the provisions of Section 13(c) of the Export Administration Act of 1979, 50 U.S.C. App. 2411(c), and its unauthorized disclosure is prohibited by law.

SA'AD 16 facilities and possible missile technology activities. Although the computer systems covered under these two licenses had been shipped, neither the operating software nor any installation service had been provided at the time of the suspension. We understand that without the software or technicians to install the devices, the systems were rendered useless.

Question 4: Mr. Milhollin testified that U.S. intelligence officials began to brief other agencies about the Iraqi end user network in 1987.

- a) When were Commerce officials briefed by U.S. intelligence about the Iraqi end user network?

Answer: Commerce officials regularly consult with the intelligence community. We are not aware of any intelligence briefings that were specifically about an Iraqi end user network.

- b) Is it true that in 1989, the Commerce Department refused to attend a meeting called by the CIA to discuss Iraq?

Answer: We are not aware of any request for such a meeting.

Question 5: Was it appropriate for Commerce to approve exports intended for SA'AD 16 after 1987? If so, why?

Answer: Commerce records show 11 approvals of U.S. dual-use items to SA'AD 16 after 1987. This equipment did not fall under MTCR controls. We believe that these approvals, which included personal computers, microfilm systems and various low level electronic equipment, were consistent with the regulations and interagency-agreed guidelines for approving licenses then in effect. Ten of the applications were referred to the Department of Defense and approved by that agency prior to issuance. In addition, nine of these applications were for equipment decontrolled consistent with multilateral agreement as of June 1990.

Question 6: Under the Missile Technology Controls Act enacted last year as Title XVII of the FY1991 Defense Authorization Act, the Commerce Department is required to refer all items on the missile technology control list to the Defense Department for consultation if the exports are destined for any "countries of concern".

- a) Which countries and projects have you identified?

Information furnished herewith is subject to the provisions of Section 12(c) of the Export Administration Act of 1979, 50 U.S.C. App. 2411(c), and its unauthorized disclosure is prohibited by law.

Answer: The Export Administration Act (EAA) expired on September 30, 1990. Although the Defense Authorization Act was enacted after the expiration of the EAA, the Administration continues to maintain controls and procedures in existence prior to the Defense Authorization Act to stem missile proliferation, and has also taken additional measures this year.

There exist classified lists of countries and projects. The country list is used to determine which export license applications should be referred to the interagency Missile Technology Export Control Group (MTEC) for review. The Defense Department is a member of the MTEC. The country list is not included here in order to avoid classifying this response. However, Commerce would be glad to brief you and your staff on the contents of the list.

Many missile end users are also included in Commerce's database among the thousands of end users to which exports should be carefully reviewed or denied. Due to security classifications, additional names are not contained in Commerce's database but are made known to special interagency working groups in connection with the review of license applications. Again, these lists are not provided here to avoid classifying the response. However, Commerce would be glad to brief you and your staff about these lists.

As discussed at the April hearing, the Administration's Enhanced Proliferation Control Initiative (EPCI) is a set of interlocking export control measures aimed at stemming chemical and biological weapons and missile proliferation. On March 13, 1991, the Commerce Department published three EPCI regulations. Two regulations were published in interim form -- imposing worldwide controls on an additional 39 chemical precursors and establishing controls on specific CBW-related dual use equipment and technical data to 28 listed destinations (See Attachment C). Those two regulations went into effect upon publication. The third regulation, which was published in proposed form, included new controls related to exports to and participation in missile projects. This regulation was completed and published on August 15, 1991. No specific projects were listed. Interagency groups have been working jointly to formulate a public list of missile projects. The Administration is bringing this issue to closure, and we now expect a public list of missile projects of concern to be published shortly. (See Attachment E.)

- b) Administration officials said last year during the defense authorization conference that an unclassified list would be very short. What are the advantages and rationale for classifying the list?

Information furnished herewith is subject to the provisions of Section 12(c) of the Export Administration Act of 1979, 50 U.S.C. App. 2411(c), and its unauthorized disclosure is prohibited by law.

Answer: Publicly listing projects of concern involves a balancing of two national security objectives: protecting intelligence sources and methods versus improving the effectiveness of the export control regime. The advantages of publishing such a list are two-fold. It informs exporters of projects and countries about which the U.S. Government has concerns for missile proliferation reasons. When transacting business in those countries in which a project is listed, the exporter knows to be more alert.

The Administration supports the publication of a missile projects list. The projects list provides guidance to U.S. exporters so that effective industry compliance can be achieved.

c) To what extent has the act been implemented in general and when will full implementation occur?

Answer: As noted above, the EAA expired on September 30, 1990. The Defense Authorization Act would have amended the EAA by revising section 6 and creating a new section 11B. In Executive Order No. 12730 of September 30, 1990, the President invoked the International Emergency Economic Powers Act to continue in effect, to the extent permitted by law, the provisions of the EAA and the Export Administration Regulations. The Department of Commerce is following a policy of conforming actions under the Executive Order to those under the EAA, insofar as appropriate.

Consistent with the purposes and policies of Title XVII of the Defense Authorization Act, Commerce has undertaken a number of steps to implement enhanced missile non-proliferation controls. As noted in response to question 6(a), Commerce recently published a regulation that expands controls on participation in missile related activities. (See Attachment E.)

Under this new rule, a validated license is required for equipment or technology when the exporter is informed by Commerce that an export may be intended for missile activities anywhere in the world. In addition, this rule requires a license if an exporter "knows" that an export is destined for a missile technology project or country that will be listed in a new Supplement 6 to the rule. The Supplement 6 list will be published at a future date when it is finalized. When an export is deemed to make a material contribution to missile activities, the license will be denied. The rule also restricts participation by U.S. persons in missile related activities. These restrictions on U.S. person participation extend to support of any missile activities, through financing, freight forwarding, or other comparable assistance.

Information furnished herewith is subject to the provisions of Section 12(c) of the Export Administration Act of 1979, 50 U.S.C. App. 2411(c), and its unauthorized disclosure is prohibited by law.

In addition to the above, Commerce officials have participated in interagency discussions on missile technology sanctions and have proceeded to implement such sanctions consistent with the objectives of Title XVII of the Defense Authorization Act. In addition, Commerce officials have met with representatives of the member countries of COCOM, the MTCR, Australia Group members and the Nuclear Suppliers Group to discuss export controls for dual-use equipment and technologies related to chemical, biological and nuclear weapons and missile delivery systems. Commerce also co-chaired the interagency group that reviewed the MTCR Annex and proposed revisions to MTCR partners at recent multilateral technical working groups.

Question 7: Explain the screening process whereby the Energy Department is permitted to screen applications for licenses, and to indicate the types of exports it is interested in, and discuss whether this screening process differs from the one employed for the Defense Department. If it does differ, explain why.

Answer: The Department of Energy (DOE) reviews applications subject to nuclear non-proliferation controls. These include applications for commodities capable of producing or enhancing the nuclear weapons potential of countries that do not have sound nuclear credentials, e.g., countries not named in Supplements 2 and 3 to Part 773 of the Export Administration Regulations (EAR). The commodities controlled for nuclear non-proliferation concerns are identified in the Commerce Control List (CCL).

DOC has received several Delegations of Authority from DOE concerning the review of applications subject to nuclear non-proliferation controls. Therefore, applications for commodities controlled for nuclear non-proliferation concerns may not require referral to DOE if they meet certain criteria, such as technical parameters and/or destination (see Attachment D, Supplements 2 and 3 to Part 773 of the EAR).

In comparison, the Department of Defense (DOD) reviews export license applications of national security concern, meaning transfers of sophisticated technology and sales of high technology items to COCOM proscribed destinations, e.g., the Soviet Union and the Peoples Republic of China. Also, pursuant to interagency-agreed procedures DOD reviews some applications to "Free World" destinations when there exists a significant risk of diversion to proscribed countries. The commodities controlled for national security concerns are identified in the CCL.

DOC has several Delegations of Authority from DOD concerning the review of applications subject to national security controls. Therefore, not all exports controlled for national security reasons are reviewed by DOD if the application meets certain criteria, such as technical parameters and/or destination.

Information furnished herewith is subject to the provisions of Section 12(c) of the Export Administration Act of 1979, 50 U.S.C. App. 2411(c), and its unauthorized disclosure is prohibited by law.

APPROVED LICENSES TO IRAQ

PAGE 19

Att. A

.....
 * INFORMATION FURNISHED HEREWITH IS SUBJECT TO THE PROVISION OF SECTION *
 * 12(C) OF THE EXPORT ADMINISTRATION ACT OF 1979, 50 U.S.C. APP. *
 * 2411(C), AND ITS UNAUTHORIZED DISCLOSURE IS PROHIBITED BY LAW. *

CASE NUMBER	RECEIVED DATE	APPLICANT	CONSIGNEE	FINAL DATE	VALUE
0276105	071109	COMSAT TELESYSTEMS INC	PUBLIC TELEPHONE SYSTEM	071116	\$20,933
ECCH - 1320 - RADIO-RELAY EQUIPMENT (SPECIFIED)					
ENDUSE: TO ENHANCE CLARITY OF LONG DISTANCE TELECOMMUNICATIONS THROUGH INMARSAT NETWORK.					
**** NOT RESTRICTED FOR MTCR, CHEMICAL/BIOLOGICAL, OR NUCLEAR NON-PROLIFERATION ****					
0277922	071117	INTERNATIONAL COMPUTER SYSTEMS	MINISTRY OF INDUSTRY	080126	\$1,000,000
ECCH - 1365 - COMPUTING EQUIPMENT, ELECTRONIC					
ENDUSE: SYSTEMS ARE USED IN PROCESS CONTROL FOR CEMENT FACTORIES AND FOR GENERAL ADMINISTRATIVE SYSTEMS.					
**** DOD RECOMMENDED APPROVE WITH CONDITIONS ON 080122 ****					
**** DOE RECOMMENDED APPROVE WITH CONDITIONS ON 071211 ****					
0279540	071123	PENRIL CORP	MINISTRY OF HEAVY INDUSTRIES	071202	\$50,007
ECCH - 1320 - RADIO-RELAY EQUIPMENT (SPECIFIED)					
ENDUSE: THE EQUIPMENT DESCRIBED IN 9(B) WILL BE USED TO TEST FOR RADIO FREQUENCY INTERFERENCE (RFI) ON PRODUCTS MANUFACTURED BY THE ULTIMATE CONSIGNEE.					
**** NOT RESTRICTED FOR MTCR, CHEMICAL/BIOLOGICAL, OR NUCLEAR NON-PROLIFERATION ****					
0280089	071125	AMERICAN TYPE CULTURE COLLECTI	IRAQ ATOMIC ENERGY COMMISSION	080326	\$120
ECCH - 4998 - BACTERIA/FUNGI/PROTOZOA					
ENDUSE: SCIENTIFIC RESEARCH NOT FOR RE-SALE.					
**** DOE RECOMMENDED APPROVE WITH CONDITIONS ON 080323 ****					
0281441	071201	LEYBOLD HERAEUS VACUUM SYSTEMS	MESSER ESTABLISHMENT FOR MECHA	080210	\$888,000
ECCH - 1091 - NUMERICAL CONTROL EQUIPMENT (SPECIFIED)					
ENDUSE: GENERAL MILITARY APPLICATIONS SUCH AS JET ENGINE REPAIR, ROCKETCASES, ETC.					
**** DOE RECOMMENDED APPROVE WITH CONDITIONS ON 080204 ****					
0282265	071203	TELETYPE GEOTECH	SCIENTIFIC RESEARCH COUNCIL DE	071214	\$19,943
ECCH - 1365 - COMPUTING EQUIPMENT, ELECTRONIC					
ENDUSE: MICROEARTHQUAKE MONITORING AND RECORDING.					
**** DOD RECOMMENDED APPROVAL ON 071210 ****					
0283210	071215	DIAGNOSTIC VIROLOGY LABORATORY	UNIVERSITY OF MOSUL	071223	\$1
ECCH - 4997 - VIRUSES/VIROIDS					
ENDUSE: FOR USE AS CONTROLS IN THE PRODUCTION OF REAGENTS FOR USE IN THE GOVERNMENT LABORATORIES OF IRAQ.					
**** NOT RESTRICTED FOR MTCR, CHEMICAL/BIOLOGICAL, OR NUCLEAR NON-PROLIFERATION ****					
028690A	071221	LEYBOLD HERAEUS VACUUM SYSTEMS	REPUBLIC OF IRAQ	080120	\$330,000
ECCH - 1322 - LASERS/LASER SYSTEMS					

.....
 * INFORMATION FURNISHED HEREWITH IS SUBJECT TO THE PROVISIONS OF SECTION *
 * 124(C) OF THE EXPORT ADMINISTRATION ACT OF 1939, 50 U.S.C. APP. *
 * 2413(C), AND ITS UNAUTHORIZED DISCLOSURE IS PROHIBITED BY LAW. *

Att. A

CASE NUMBER	RECEIVED DATE	APPLICANT	CONSIGNEE	FINAL DATE	VALUE
HOUSE: GENERAL MILITARY REPAIR APPLICATIONS SUCH AS JET ENGINES ROCKETS ETC.					
**** DOE RECOMMENDED APPROVAL ON 800111 ****					
B20252	000104	AMERICAN TAPE CULTURE COLLECT	IRAQ ATOMIC ENERGY COMMISSION	000505	876
ECCN - 990 - BACTERIA/UNUS/PROIQIDA					
HOUSE: SCIENTIFIC RESEARCH NOT FOR RE-SALE.					
**** DOE RECOMMENDED APPROVAL ON 800502 ****					
B20490	000112	INVEST INFORMATION BUREAU	MINISTRY OF INTERIOR	000307	10,700,000
ECCN - 1505 - COMPUTING EQUIPMENT, ELECTRONIC					
HOUSE: PERSONNEL DATA BASE, PRIMARILY FOR IMMIGRATION SERVICES TO BE USED AT AIRPORTS AND BORDER CROSSING STATIONS.					
**** DCD RECOMMENDED APPROVE WITH CONDITIONS ON 800120 ****					
**** DOE RECOMMENDED APPROVE WITH CONDITIONS ON 800106 ****					
B220664	000112	BETA LABORATORIES INC	SARAJ AL DIN	000122	11,105,000
ECCN - 1507 - DIAMOND CRYSTALS/ASSEMBLIES FOR ELECTRONIC USE					
HOUSE: TO BE USED AS COMPONENT IN RADAR SYSTEM.					
**** NOT RESTRICTED FOR HIGH, CHEMICAL/BIOLOGICAL, OR NUCLEAR NON-PROLIFERATION ****					
B20200	000120	BLUE SEAS CORPORATION	SADDAM STATE ESTABLISHMENT	000419	193,577
ECCN - 1504 - ELECTRONIC ASSEMBLIES & INTEGRATED CIRCUITS					
HOUSE: FOR REPAIR AND SERVICES OF ELECTRONIC INSTRUMENTS IN IRAQ BY ABOVE BUYER ONLY.					
**** DCD RECOMMENDED APPROVE WITH CONDITIONS ON 800413 ****					
B20336	000122	ASHFORD INTERNATIONAL INC	SALIM KANDARI	001007	164,191
ECCN - 1505 - COMPUTING EQUIPMENT, ELECTRONIC					
HOUSE: TO BE USED BY STUDENTS FOR RESEARCH AT THE UNIVERSITY.					
**** DCD RECOMMENDED APPROVE WITH CONDITIONS ON 800930 ****					
**** STATE RECOMMENDED APPROVAL ON 880720 ****					
**** DOE RECOMMENDED APPROVE WITH CONDITIONS ON 800707 ****					
B223813	000125	STANDARD ELECTRIC LOWMEIER AG	STATE ORGANIZATION OF ROAD & B	000222	10,500
ECCN - 1506 - DISTILLOSCOPES & COMPONENTS FOR (SPECIFICUS)					
HOUSE: THE BEST EQUIPMENT WILL BE USED BY SCL FOR OPERATION OF THE AIR TRAFFIC CONTROL EQUIPMENT INSTALLED AT THE BASRAH INTERNATIONAL AIRPORT.					
**** DOE RECOMMENDED APPROVE WITH CONDITIONS ON 800219 ****					
B22445	000125	ASHFORD INTERNATIONAL INC	SALIM KANDARI	000303	12,602
ECCN - 1522 - LASERS/LASER SYSTEMS					

APPROVED LICENSES TO IRAQ

.....
 * INFORMATION FURNISHED HEREWITH IS SUBJECT TO THE PROVISIONS OF SECTION *
 * 12(C) OF THE EXPORT ADMINISTRATION ACT OF 1979, 50 U.S.C. APP. *
 * 2411(C), AND ITS UNAUTHORIZED DISCLOSURE IS PROHIBITED BY LAW. *

Att. A.

CASE NUMBER	RECEIVED DATE	APPLICANT	CONSIGNEE	FINAI DATE	VALUE
**** DOD RECOMMENDED APPROVE WITH CONDITIONS ON 080823 ****					
D343193	080802	MITEC INC	TECHNICAL AND SCIENTIFIC MATER	080922	\$3,300
ECCH - 1521 - AMPLIFIERS & RELATED EQUIPMENT (SPECIFIED)					
ENDUSE: THE ABOVE UNITS WILL BE USED BY TECH & SCIENTIFIC MATERIALS IMPORTATION DIVISION, AS CAPITAL EQUIPMENT IN THE FORM IN WHICH RECEIVED IN A MANUFACTURING PROCESSING THE COUNTRY NAMED IN ITEM 1 & WILL NOT BE RE					
**** DOE RECOMMENDED APPROVE WITH CONDITIONS ON 080913 ****					
D346133	080803	ZETA LABORATORIES INC	IRAQI TRADING CO	080817	\$1,103,000
ECCH - 1507 - QUARTZ CRYSTALS/ASSEMBLIES FOR ELECTRONIC USE					
ENDUSE: TO BE USED AS COMPONENT IN A GROUND RADAR SYSTEM.					
**** NOT RESTRICTED FOR MICR, CHEMICAL/BIOLOGICAL, OR NUCLEAR NON-PROLIFERATION ****					
D346062	080803	TACTICAL ELECTRONICS COMP	ELECTRONICS AND COMPUTERS RESE	081013	\$442,430
ECCH - 1521 - AMPLIFIERS & RELATED EQUIPMENT (SPECIFIED)					
ENDUSE: PROVIDE HIGH RF OUTPUT POWER FROM SIGNAL GENERATOR AND/OR EXCITER FOR TESTING RADIO PATHS AND ANTENNA PATTERNS.					
**** DOE RECOMMENDED APPROVE WITH CONDITIONS ON 080930 ****					
D348070	080810	AMERICAN TYPE CULTURE COLLECTI	TECHNICAL & SCIENTIFIC MATERIA	080816	\$2,112
ECCH - 4998 - BACTERIA/FUNGI/PROTOZOA					
ENDUSE: SCIENTIFIC RESEARCH NOT FOR RE-SALE.					
**** NOT RESTRICTED FOR MICR, CHEMICAL/BIOLOGICAL, OR NUCLEAR NON-PROLIFERATION ****					
D348023	080815	MEMPHIS INTERNATIONAL INC	IRAQI AIRWAYS	080816	\$10,625
ECCH - 1501 - EQUIP - NAVIGATION/FRAUD/ANTIBOMB COMMUNICAT.					
ENDUSE: FOR USE WITH COMMERCIAL JET STAR, FALCON 20, 30 AND DUEING 707, 727 AND 737.					
**** NOT RESTRICTED FOR MICR, CHEMICAL/BIOLOGICAL, OR NUCLEAR NON-PROLIFERATION ****					
D349093	080816	ODM CORPORATION	SALAH AL DIN ESTABLISHMENT	081013	\$12,420
ECCH - 1564 - ELECTRONIC ASSEMBLIES & INTEGRATED CIRCUITS					
ENDUSE: UPGRADE CUSTOMER'S IDM AT (80) TO PROVIDE A CAD CAPABILITY.					
**** DOD RECOMMENDED APPROVAL ON 081018 ****					
D349102	080816	ODM CORPORATION	HOUSOUR FACTORY	080819	\$8,280
ECCH - 1574 - ELECTRONIC DEVICES, SUPERCONDUCTING					
ENDUSE: INTEGRATION INTO A CAD/CAE/CFM SYSTEM TO SUPPORT TTL AND CMOS DESIGN.					
**** NOT RESTRICTED FOR MICR, CHEMICAL/BIOLOGICAL, OR NUCLEAR NON-PROLIFERATION ****					

APPROVED LICENSES TO IRAQ

.....
 * INFORMATION FURNISHED HEREWITH IS SUBJECT TO THE PROVISIONS OF SECTION *
 * 12(C) OF THE EXPORT ADMINISTRATION ACT OF 1979, 50 U.S.C. APP. *
 * 2411(C), AND ITS UNAUTHORIZED DISCLOSURE IS PROHIBITED BY LAW. *

CASE NUMBER	RECEIVED DATE	APPLICANT	CONSIGNEE	FINAL DATE	VALUE
0381729	890412	WELD LEITZ LTD	MINISTRY OF DEFENCE	890318	835,800
ECCM - 1949 - COMPUTING EQUIPMENT, ELECTRONIC ENDUSE: THE ABOVE IS ONLY A PERIPHERAL FOR A COMPUTER AND DOESN'T HAVE A PDR.					
**** DOD RECOMMENDED APPROVAL ON 890312 ****					
0382528	890310	CENTRAL ENGINEERING INTL CO	IRAQI AIRWAYS	890318	812,423
ECCM - 1949 - COMPUTING EQUIPMENT, ELECTRONIC ENDUSE: FOR USE IN AIRCRAFT ENGINE TEST FACILITY.					
**** DOD RECOMMENDED APPROVAL ON 890312 ****					
8382361	890311	POWER TECHNOLOGY INC	RESEARCH CENTER	890408	82,910
ECCM - 1902 - COMM. DETECT. TRACKING EQUIP., U-V/I-ULTRASONIC ENDUSE: DEPARTMENT APPLICATION/OPTICAL COMMUNICATIONS					
**** NOT RESTRICTED FOR MTCR, CHEMICAL/BIOLOGICAL, OR NUCLEAR NON-PROLIFERATION ****					
0000637	881107	COMTEC INTERNATIONAL INC	GOVERNMENT OF IRAQ	881114	8117,267
ECCM - 1921 - FREQ. SYNTHESIZERS & EQUIP. CONTAINING (SPECIF.) ENDUSE: SPARE PARTS ARE TO BE UTILIZED TO REPAIR EXISTING PE-100 SERIES HANDHELD RADIOS FOR THE MINISTRY OF INTERIOR-CIVIL DEFENSE-THAT ARE USED IN THE COMMUNICATION OF FIELD AGENTS OF THE MINISTRY.					
**** NOT RESTRICTED FOR MTCR, CHEMICAL/BIOLOGICAL, OR NUCLEAR NON-PROLIFERATION ****					
0000638	881107	COMTEC INTERNATIONAL INC	GOVERNMENT OF IRAQ	881114	8161,373
ECCM - 1917 - RADIO TRANSMITTERS/SMITTER-AMPLIFIERS (SPECIFIED) ENDUSE: DESKTOP MOUNTED FIXED STATION RADIOS ARE TO BE UTILIZED AS BASE STATIONS FOR THE USE OF COMMUNICATING WITH THE FIELD AGENTS FROM THE MAIN STATIONS WITHIN THE MINISTRY OF INTERIOR CIVIL DEFENSE GROUP.					
**** NOT RESTRICTED FOR MTCR, CHEMICAL/BIOLOGICAL, OR NUCLEAR NON-PROLIFERATION ****					
0000733	881109	HEWLETT PACKARD COMPANY	STATE ESTABLISHMENT FOR HEAVY	881119	812,883
ECCM - 1949 - COMPUTING EQUIPMENT, ELECTRONIC ENDUSE: THE ORDERED PRODUCTS WILL BE USED TO PILOT 3 MEASURING MACHINES, MANUFACTURED BY RENAULT AUTOMATION. THESE MACHINES WILL BE USED TO CONTROL THE QUALITY OF PARTS MANUFACTURED BY THE ENDUSER. THESE PARTS ARE USED IN THE OIL BUSINESS.					
**** DOD RECOMMENDED APPROVAL ON 881116 ****					
0001374	881123	REGAL INTERNATIONAL INC	INDUSTRIAL PROJECTS CO	881228	811,143
ECCM - 1970 - THERMOELECTRIC MATERIALS/DEVICES (SPECIFIED) ENDUSE: ABOVE ITEMS WILL BE USED BY THE ULTIMATE CONSIGNEE FOR RESEARCH TO MAKE SMALL REFRIGERATORS, COLD BATH AND TO DEVELOP NEW TECHNIQUES IN THE FIELD OF HEAT TRANSFER					
**** DOD RECOMMENDED APPROVE WITH CONDITIONS ON 881223 ****					

APPROVED LICENSES TO IRAQ

HHACV 1111 12
PAGE 53

.....
 * INFORMATION FURNISHED HEREWITH IS SUBJECT TO THE PROVISIONS OF SECTION *
 * 12(C) OF THE EXPORT ADMINISTRATION ACT OF 1979, 50 U.S.C. APP. *
 * 2411(C), AND ITS UNAUTHORIZED DISCLOSURE IS PROHIBITED BY LAW. *

CASE NUMBER	RECEIVED DATE	APPLICANT	CONSIGNEE	FINAL DATE	VALUE
**** DOD RECOMMENDED APPROVAL ON 890627 ****					
0032390	890623	ANDREW CORP	IRAQI TELECOMM & POST	890726	\$12,777
ECCN - 1528 - CABLE, COMMUNICATIONS/OTHER COAXIAL ENDUSE: TO BE USED FOR MICROWAVE TRANSMISSION AND RECEPTION OF VOICE/DATA TELECOMMUNICATIONS.					
**** DOD RECOMMENDED APPROVE WITH CONDITIONS ON 890726 ****					
0032403	890626	MITEQ INC	MINISTRY OF TRADE	890703	\$3,300
ECCN - 1537 - MICROWAVE EQUIPMENT (SPECIFIED) ENDUSE: THIS UNIT WILL BE USED IN IRAQI NATIONAL RADIO LINK COMMUNICATION NETWORK DEVELOPMENT					
**** NOT RESTRICTED FOR MTCR, CHEMICAL/BIOLOGICAL, OR NUCLEAR NON-PROLIFERATION ****					
0032404	890626	MITEQ INC	MINISTRY OF TRADE	890704	\$22,275
ECCN - 1520 - RADIO-RELAY EQUIPMENT (SPECIFIED) ENDUSE: THIS UNIT WILL BE USED IN IRAQI NATIONAL RADIO LINK COMMUNICATION NETWORK DEVELOPMENT					
**** NOT RESTRICTED FOR MTCR, CHEMICAL/BIOLOGICAL, OR NUCLEAR NON-PROLIFERATION ****					
0032405	890626	MITEQ INC	TECHNICAL & SCIENTIFIC MATERIA	890704	\$16,300
ECCN - 1531 - FREQ. SYNTHESIZERS & EQUIP. CONTAINING (SPECIF.) ENDUSE: THIS UNIT WILL BE USED IN IRAQI NATIONAL RADIO LINK COMMUNICATION NETWORK DEVELOPMENT					
**** NOT RESTRICTED FOR MTCR, CHEMICAL/BIOLOGICAL, OR NUCLEAR NON-PROLIFERATION ****					
0032406	890626	MITEQ INC	TECHNICAL & SCIENTIFIC MATERIA	890704	\$14,300
ECCN - 1537 - MICROWAVE EQUIPMENT (SPECIFIED) ENDUSE: THESE UNITS WILL BE USED IN IRAQI NATIONAL RADIO LINK COMMUNICATION NETWORK DEVELOPMENT.					
**** NOT RESTRICTED FOR MTCR, CHEMICAL/BIOLOGICAL, OR NUCLEAR NON-PROLIFERATION ****					
0033199	890701	HEWLETT PACKARD COMPANY	STATE ESTABLISHMENT FOR HEAVY	890708	\$7,855
ECCN - 1545 - COMPUTING EQUIPMENT, ELECTRONIC ENDUSE: THE ORDERED PRODUCTS WILL BE USED FOR DATA ACQUISITION ON THEIR MEASURING MACHINES MANUFACTURED BY RENAULT AUTOMATION. WE HAVE ALREADY OBTAINED A LICENSE PREVIOUSLY IN NOV.88 UNDER CASE NO. 0000753					
**** DOD RECOMMENDED APPROVAL ON 890707 ****					
0033200	890701	HEWLETT PACKARD COMPANY	STATE ESTABLISHMENT FOR HEAVY	890708	\$7,855
ECCN - 1545 - COMPUTING EQUIPMENT, ELECTRONIC ENDUSE: THE ORDERED PRODUCTS WILL BE USED FOR DATA ACQUISITION ON THEIR MEASURING MACHINES MANUFACTURED BY RENAULT AUTOMATION. WE HAVE ALREADY OBTAINED A LICENSE PREVIOUSLY IN NOV.88 UNDER CASE NO. 0000753.					
**** DOD RECOMMENDED APPROVAL ON 890707 ****					

APPROVED LICENSES TO IRAQ

* INFORMATION FURNISHED HEREWITH IS SUBJECT TO THE PROVISIONS OF SECTION *
* 12(C) OF THE EXPORT ADMINISTRATION ACT OF 1979, 50 U.S.C. APP. *
* 2411(C), AND ITS UNAUTHORIZED DISCLOSURE IS PROHIBITED BY LAW. *

CASE NUMBER	RECEIVED DATE	APPLICANT	CONSIGNEE	FINAL DATE	VALUE
0033332	890626	MITER INC	MINISTRY OF TRADE TECHNICAL &	890707	827,250
ECCN - 1573 - FREQ. SYNTHESIZERS & EQUIP. CONTAINING (SPECIF.)					
ENDUSE: THESE UNITS WILL BE USED IN IRAQI NATIONAL RADIO LINK COMMUNICATION NETWORK DEVELOP.					
**** NOT RESTRICTED FOR HIGH, CHEMICAL/BIOLOGICAL, OR NUCLEAR NON-PROLIFERATION ****					
0033334	890626	MCHASTER CARR SUPPLY	STATE ENTERPRISE FOR PIPELINES	890706	83,300
ECCN - 1529 - MEASURING/CALIBRATING/TESTING EQUIP., ELECTRONIC					
ENDUSE: MEASURE AIR VELOCITY AND TEMPERATURE					
**** DOD RECOMMENDED APPROVAL ON 890703 ****					
0034169	890703	SIEMENS CORP	MINISTRY OF INDUSTRY AND MINER	890713	876,860
ECCN - 1563 - COMPUTING EQUIPMENT, ELECTRONIC					
ENDUSE: EQUIPMENT WILL BE USED IN THE MATERIAL CENTER OF THE DIRECTORATE OF TECHNICAL EQUIPMENT OF THE MINISTRY OF INDUSTRY AND MINERALS UNDER THE SUPERVISION OF DR. AL MUNDHERI, HEAD OF MATERIAL INVESTIGATION. FOR END USE INFORMATION SEE ATTACHED BXA-622P-A. EQUIPMENT WILL BE USED FOR QUALITY TESTING IN THE FIELD OF MATERIAL SCIENCE TECHNOLOGY. IT WILL ALSO BE USED FOR CONTROL OF TWO X-RAY DIFFRACTION SYSTEMS OS60 (MANUFACTURED BY SIEMENS IN FRG), AND FOR AUTOMATIC EVALUATION OF THE FOLLOWING DIFFRACTIONAL ANALYTIC METHODS: PHASE ANALYSIS AND HIGH-TEMPERATURE ANALYSIS OF MINERAL POWDERS, STRESS AND TEXTURE ANALYSIS OF MINERAL SAMPLES SUCH AS: AL, FE, NI, CU, TI, ETC.					
**** DOD RECOMMENDED APPROVAL ON 890710 ****					
0034553	890707	INTERNATIONAL BUSINESS MACHINE UNIVERSITY OF TECHNOLOGY		890908	8300,000
ECCN - 1563 - COMPUTING EQUIPMENT, ELECTRONIC					
ENDUSE: THE EQUIPMENT WILL BE USED FOR TEACHING TO WRITE SOFTWARE; PROGRAMMING EDUCATION; ADMIN DATA BASE (STUDENT LISTS, ADDRESSES)					
**** DOD RECOMMENDED APPROVAL ON 890817 ****					
0034982	890707	BROWN & ROOT INC	STATE ORGANIZATION FOR OIL PRO	890809	83,600
ECCN - 1526 - CABLE, COMMUNICATIONS/OTHER COAXIAL					
ENDUSE: WILL BE PROCESSED INTO AN OIL EXPORT TERMINAL TO BE MANUFACTURED IN IRAQ. CRUDE OIL WILL BE EXPORTED. 7/27/89 CONTACTED MR. MULFISH FOR REQUESTED INFO TO BE RETURNED TO ME WITHIN 7 WORKING DAYS.LB.					
**** DOD RECOMMENDED APPROVE WITH CONDITIONS ON 890808 ****					
0034693	890713	INTERNATIONAL COMPUTER SYSTEMS	MINISTRY OF OIL THE STATE ENTE	890724	8250,000
ECCN - 1563 - COMPUTING EQUIPMENT, ELECTRONIC					
ENDUSE: THE SPARES ARE REQUIRED TO REPAIR AND MAINTAIN SEVERAL PDP 11/34 SYSTEMS ORIGINALLY SUPPLIED BY NEC OF JAPAN ABOUT TEN YEARS AGO (LICENSE NO. UNKNOWN). THE SYSTEMS ARE USED FOR MONITORING TEMP AND PRESSURE ALONG GAS LINES.					
**** DOD RECOMMENDED APPROVAL ON 890719 ****					
0038796	890724	DATA GENERAL CORPORATION	MINISTRY OF DEFENSE	890912	8324,000

AHachman 2

APPROVED LICENSES TO IRAQ

PAGE 60

* INFORMATION FURNISHED HEREIN IS SUBJECT TO THE PROVISIONS OF SECTION *
* 12(C) OF THE EXPORT ADMINISTRATION ACT OF 1979, 50 U.S.C. APP. *
* 2411(C), AND ITS UNAUTHORIZED DISCLOSURE IS PROHIBITED BY LAW. *

CASE NUMBER	RECEIVED DATE	APPLICANT	CONSIGNEE	FINAL DATE	VALUE
ENDUSE: THE VAXSTATION 3100 WILL BE USED BY BAGHDAD UNIVERSITY TO TRAIN UNIVERSITY STUDENTS ARCHITECTURAL AND CIVIL ENGINEERING DRAFTING USING GDS SOFTWARE FROM McDONNELL DOUGLAS.					
**** DOD RECOMMENDED APPROVE WITH CONDITIONS ON 900216 ****					
0055452	091006	MED TEK INTERNATIONAL LTD	STATE COMPANY FOR DRUG INDUSTRY	091018	\$81,380
ECCN - 1565 - COMPUTING EQUIPMENT, ELECTRONIC					
ENDUSE: SPARE PARTS ARE NEEDED TO ASSURE OPERATION OF CT-SCANNER AT BASRA HOSPITAL. (PFIZER MODEL 0450). THESE PARTS ARE NECESSARY FOR SERVICE AND REPAIR AND TO IMPROVE THE QUALITY OF THE CURRENT SCANS. THE HOSPITAL IS URGENTLY AWAITING THESE PARTS.					
**** DOD RECOMMENDED APPROVE WITH CONDITIONS ON 091017 ****					
0055821	091012	HEWLETT-PACKARD COMPANY	SALAH AL OIM ESTABLISHMENT	091101	\$139,535
ECCN - 1531 - FREQ. SYNTHESIZERS & EQUIP. CONTAINING (SPECIF.)					
ENDUSE: ENDUSE INFORMATION: THE ORDERED PRODUCTS WILL BE USED IN CALIBRATING, ADJUSTING AND TESTING ON A SURVEILLANCE RADAR SUPPLIED BY THOMSON.					
**** NOT RESTRICTED FOR NICK, CHEMICAL/BIOLOGICAL, OR NUCLEAR NON-PROLIFERATION ****					
0056159	091010	WEINBERGER AG	SCIENTIFIC RESEARCH CENTER	091020	\$350,000
ECCN - 1572 - RECORDING/REPRODUCING EQUIPMENT (SPECIFIED)					
ENDUSE: RESEARCH ON MECHANICAL MOVEMENTS AND ANALYSIS OF BEHAVIOR OF MECHANICAL PARTS.					
**** NOT RESTRICTED FOR NICK, CHEMICAL/BIOLOGICAL, OR NUCLEAR NON-PROLIFERATION ****					
0056226	091013	HALLSBURTON LOGGING SERVICES	ARAB WELL LOGGING COMPANY	091116	\$178,904
ECCN - 1565 - COMPUTING EQUIPMENT, ELECTRONIC					
ENDUSE: TO BE USED BY ULTIMATE CONSIGNEE FOR OIL WELL LOGGING SERVICE OPERATIONS IN IRAQ.					
**** DOD RECOMMENDED APPROVE WITH CONDITIONS ON 091024 ****					
0056407	091012	FREEPORT-MCMORAN INC	HISRAQ SULPHUR STATE ENTERPRI	900226	\$86,135
ECCN - 1565 - COMPUTING EQUIPMENT, ELECTRONIC					
ENDUSE: FOR USE WITH PROCESS CONTROL SYSTEM IN SULPHUR PURIFICATION PLANT BEING BUILT TO HISRAQ STATE SULPHUR ENTERPRISE, IRAQ. SEE ATTACHED DOCUMENTS.					
**** DOD RECOMMENDED APPROVE WITH CONDITIONS ON 900131 ****					
**** DOD RECOMMENDED APPROVE WITH CONDITIONS ON 900222 ****					
0058030	091019	MEMPHIS INTERNATIONAL INC	IRAQI AIRWAYS	091210	\$2,261,030
ECCN - 1465 - COMPASSES/GYROSCOPES/ACCELEROMETERS (SPECIFIED)					
ENDUSE: FOR USE ONLY ON COMMERCIAL BOEING 707, 727 AND 747 AIRCRAFT OWNED AND OPERATED BY IRAQI AIRWAYS, IRAQ'S FLAG CARRIER.					

federal register

Wednesday
March 13, 1991

Att. C

Part VI

**Department of
Commerce**

Bureau of Export Administration

**15 CFR Parts 770, 776, 778, and 799
Expansion of Foreign Policy Controls on
Chemical Weapon Precursors; Imposition
of Foreign Policy Controls on Equipment
and Technical Data Related to the
Production of Chemical and Biological
Weapons; Interim Rules**

**15 CFR Parts 771, 776, and 778
Imposition and Expansion of Foreign
Policy Controls; Proposed Rule**

participation, and a delay in effective date, are undesirable because this regulation involves a foreign and military affairs function of the United States. No other law requires that a notice of proposed rulemaking and an opportunity for public comment be given for this rule.

However, because of the importance of the issues raised by these regulations, this rule is issued in interim form and comments will be considered in the development of final regulations. Accordingly, the Department encourages interested persons who wish to comment to do so at the earliest possible time to permit the fullest consideration of their views. Comments on the contract sanctity provisions contained in this rule are especially encouraged.

The period for submission of comments will close April 12, 1991. The Department will consider all comments received before the close of the comment period in developing final regulations. Comments received after the end of the comment period will be considered if possible, but their consideration cannot be assured. The Department will not accept public comments accompanied by a request that a part or all of the material be treated confidentially because of its business proprietary nature or for any other reason. The Department will return such comments and materials to the person submitting the comments and will not consider them in the development of final regulations. All public comments on these regulations will be a matter of public record and will be available for public inspection and copying. In the interest of accuracy and completeness, the Department requires comments in written form. Oral comments must be followed by written memoranda, which will also be a matter of public record and will be available for public review and copying. Communications from agencies of the United States Government or foreign governments will not be made available for public inspection.

The public record concerning these regulations will be maintained in the Bureau of Export Administration Freedom of Information Records Inspection Facility, room 4525, Department of Commerce, 14th Street and Pennsylvania Avenue, NW, Washington, DC 20230. Records in this facility, including written public comments and memoranda summarizing the substance of oral communications, may be inspected and copied in accordance with regulations published in part 4 of title 15 of the Code of

Federal Regulations. Information about the inspection and copying of records at the facility may be obtained from Margaret Cornejo, Bureau of Export Administration Freedom of Information Officer, at the above address or by calling (202) 377-3653.

List of Subjects in 15 CFR Parts 778 and 799

Exports, Reporting and recordkeeping requirements.

Accordingly, parts 778 and 799 of the Export Administration Regulations (15 CFR parts 730-799) are amended as follows:

1. The authority citation for 15 CFR parts 778 and 799 continues to read as follows:

Authority: Pub. L. 96-72, 92 Stat. 503 (50 U.S.C. app. 2407 *et seq.*), as amended; Pub. L. 95-523 of December 28, 1977 (50 U.S.C. 1707 *et seq.*), E.O. 12730 of September 30, 1990 (55 FR 40373, October 2, 1990); E.O. 12733 of November 16, 1990 (55 FR 46587, November 20, 1990).

PART 778—(AMENDED)

§ 778.19 [Amended]

1. Section 778.19 is amended:

- a. By removing paragraph (a)(ii) and redesignating paragraphs (a)(i) and (a)(iii) as new paragraphs (a)(1) and (a)(2), respectively;
- b. By revising paragraphs (b) and (e);
- c. By removing paragraph (i);
- d. By redesignating paragraphs (f), (g), and (h) as new paragraphs (g), (h), and (i), respectively;
- e. By adding a new paragraph (f);
- f. By removing paragraph (1) and redesignating paragraph (m) as new paragraph (n);
- g. By redesignating paragraphs (j) and (k) as new paragraphs (i) and (m), respectively; and
- h. By adding new paragraphs (j) and (k), as follows:

§ 778.19 Chemical and biological agents.

(b) Unless one or more of the criteria stated in paragraphs (c) through (k) of this section are met, applications to export the goods in ECCNs 4798B, 4997B, and 4998B will generally be denied to Libya, Iran, Iraq, and Syria. Applications will generally be approved to other destinations, except where there is reason to believe that those goods will be used in producing chemical or biological weapons or will otherwise be devoted to chemical or biological warfare purposes.

(e) The contract sanctity date for exports of items in ECCNs 4997B and

4998B from the United States to Iran, Iraq, or Syria is February 22, 1989.

(f) The contract sanctity date for exports of the following chemicals from the United States to Iran or Iraq is February 22, 1989: Dimethyl methylphosphonate, methylphosphonyl dichloride, methylphosphonyl difluoride, phosphorus oxychloride, and thiodiglycol. The contract sanctity date for exports of the following chemicals from the United States to Syria is February 22, 1989: Dimethyl methylphosphonate, methylphosphonyl dichloride, and methylphosphonyl difluoride.

(j) The contract sanctity date for exports of chemicals controlled by ECCN 4798B from the United States to all destinations (except Iran, Iraq, Libya, or Syria) is March 7, 1991, except for applications to export the following chemicals: 2-chloroethanol, dimethyl methylphosphonate, dimethyl phosphite (dimethyl hydrogen phosphite), methylphosphonyl dichloride, methylphosphonyl difluoride, phosphorus oxychloride, phosphorus trichloride, thiodiglycol, thionyl chloride, triethanolamine, and trimethyl phosphite. (See also paragraphs (h) and (i) of this section.) This provision does not apply to exports to Country group Z or to military or police entities in the Republic of South Africa. For exports to Iran, Iraq, Libya, Syria, see paragraphs (c) through (g) of this section.

(k) The contract sanctity date for reexports of chemicals controlled under ECCN 4798B to any destination (except Iran, Iraq, Libya, or Syria) is March 7, 1991. The contract sanctity date for reexports of these chemicals to Iran, Iraq, Libya, or Syria is December 12, 1989. This provision does not apply to exports to Country Group Z or to military or police entities in the Republic of South Africa.

PART 799—(AMENDED)

Supplement No. 1 to § 799.1 [Amended]

3. In Supplement No. 1 to Section 799.1 (the Commodity Control List), Commodity Group 7 (Chemicals, Metalloids, Petroleum Products, and Related Materials), ECCN 4798B is amended by revising the List of Chemicals Controlled, as follows:

4798B Precursor and intermediate chemicals used in the production of chemical warfare agents.

List of Chemicals Controlled by ECCN 4798B

(See Supplement No. 1 to 799.2, Interpretation 23: Precursor Chemicals, for synonyms for the following chemicals.)

(1) [C.A.S. # 1341-49-7] Ammonium hydrogen fluoride
(2) [C.A.S. # 7784-34-1] Arsenic trichloride
(3) [C.A.S. # 78-33-7] Benzoic acid
(4) [C.A.S. # 107-07-3] 2-

Chloroethanol:

(5) [C.A.S. # 78-38-6] Diethyl ethylphosphonate
(6) [C.A.S. # 15715-41-0] Diethyl methylphosphonite
(7) [C.A.S. # 2404-03-7] Diethyl-N,N-dimethylphosphoramide
(8) [C.A.S. # 782-04-9] Diethyl phosphite:

(9) [C.A.S. # 100-37-8] N,N-Diethylthalamine
(10) [C.A.S. # 5842-07-9] N,N-Diisopropyl-beta-aminothiane thiol
(11) [C.A.S. # 96-80-0] N,N-Diisopropyl-beta-aminothanol
(12) [C.A.S. # 96-79-7] N,N-Diisopropyl-beta-aminomethyl chloride:
(13) [C.A.S. # 108-18-9]

Diisopropylamine:

(14) [C.A.S. # 8183-73-3] Dimethyl ethylphosphonate
(15) [C.A.S. # 795-79-6] Dimethyl methylphosphonate
(16) [C.A.S. # 858-85-9] Dimethyl phosphite (dimethyl hydrogen phosphite)
(17) [C.A.S. # 124-40-3]

Dimethylamine:

(18) [C.A.S. # 508-59-2]
Dimethylamine hydrochloride:
(19) [C.A.S. # 57856-11-8] O-Ethyl-2-diisopropylaminoethyl methylphosphonite (QL):
(20) [C.A.S. # 1498-40-4]

Ethylphosphorus dichloride

[Ethylphosphinyl dichloride]:¹

(21) [C.A.S. # 430-78-4]

Ethylphosphorus difluoride

[Ethylphosphinyl difluoride]:²

(22) [C.A.S. # 1088-50-8]

Ethylphosphonyl dichloride:

(23) [C.A.S. # 753-98-0]

Ethylphosphonyl difluoride:

(24) [C.A.S. # 7684-49-3] Hydrogen fluoride:

(25) [C.A.S. # 3554-74-3] 3-Hydroxyl-1-methylpiperidine:

(26) [C.A.S. # 78-89-1] Methyl Benzilate:

(27) [C.A.S. # 878-83-3]

Methylphosphorus dichloride

[Methylphosphinyl dichloride]:³

(28) [C.A.S. # 753-69-3]

Methylphosphorus difluoride

[Methylphosphinyl difluoride]:⁴

(29) [C.A.S. # 678-47-1]

Methylphosphonyl dichloride:

(30) [C.A.S. # 678-69-3]

Methylphosphonyl difluoride:

(31) [C.A.S. # 19025-47-3] Phosphorus Oxynchloride:

(32) [C.A.S. # 10028-13-8] Phosphorus pentachloride:

(33) [C.A.S. # 1314-80-3] Phosphorus pentasulfide:

(34) [C.A.S. # 7719-12-2] Phosphorus trichloride:

(35) [C.A.S. # 75-37-8] Phoscofene:
(36) [C.A.S. # 404-07-3] Phoscoyl siloxane:
(37) [C.A.S. # 151-50-8] Potassium cyanide:
(38) [C.A.S. # 7789-23-3] Potassium fluoride:
(39) [C.A.S. # 7789-23-9] Potassium hydrogen fluoride:
(40) [C.A.S. # 1619-34-7] 3-Quinuclidinol:
(41) [C.A.S. # 3731-38-2] 3-Quinuclidinone:
(42) [C.A.S. # 1333-83-1] Sodium bifluoride:
(43) [C.A.S. # 143-53-9] Sodium cyanide:
(44) [C.A.S. # 7681-49-4] Sodium fluoride:
(45) [C.A.S. # 1313-82-2] Sodium sulfide:
(46) [C.A.S. # 111-48-8] Thiobisglycol:
(47) [C.A.S. # 7719-09-7] Thiocetyl chloride:
(48) [C.A.S. # 102-71-6] Triethanolamine:
(49) [C.A.S. # 122-52-1] Triethyl phosphite: and
(50) [C.A.S. # 121-45-9] Trimethyl phosphite.

4. In Supplement No. 1 to § 799.1 (the Commodity Control List), Commodity Group 7 (Chemicals, Metalloids, Petroleum Products and Related Materials), ECCN 5798F is removed.

Supplement No. 1 to § 799.2 [Amended]

5. In Supplement No. 1 to § 799.2 (Interpretations), Interpretation 23 (Precursor Chemicals) is revised to read as follows:

Interpretation 23: Precursor Chemicals

Following is a listing of chemicals controlled by ECCN 4798B that includes their Chemical Abstract Service Registry (C.A.S.) number and synonyms (i.e., alternative names). These chemicals require a validated license in all countries except Australia, Austria, Belgium, Canada, Denmark, the Federal Republic of Germany, France, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand,

Norway, Portugal, Spain, Switzerland, Turkey, and the United Kingdom.
(1) [C.A.S. # 1343-69-7] Ammonium hydrogen fluoride
Acid ammonium fluoride
Ammonium bifluoride
Ammonium difluoride
Ammonium hydrofluoride
Ammonium hydrogen bifluoride
Ammonium hydrogen difluoride
Ammonium monohydrogen difluoride
(2) [C.A.S. # 7784-34-1] Arsenic trichloride
Arsenic (III) chloride
Arsenous chloride
Fuming liquid arsenic
Trichloroarsine
(3) [C.A.S. # 78-33-7] Benzoic acid
-alpha-,alpha-Diphenyl-,alpha-,alpha-dicyclic acid
Diphenylglycolic acid
-alpha-,alpha-Diphenylglycolic acid
Diphenylhydroxyacetic acid
-alpha-,Hydroxy-2,2-diphenylacetic acid
Ammonium hydrogen difluoride
-alpha-,Hydroxy-,alpha-,alpha-pentylacetosuccinic acid
Hydroxydiphenylacetic acid
(4) [C.A.S. # 107-07-3] 2-Chloroethanol
2-Chloro-1-ethanol
Chloroethanol
2-Chloroethyl alcohol
Ethane chloroethane
Ethylchlorohydrin
Ethylene dichloride
Ethylene dichlorohydrin
Glycol chlorohydrin
Glycol monochlorohydrin
3-Hydroxyethyl chloride
(5) [C.A.S. # 78-33-7] Diethyl ethylphosphonate
Ethylphosphonic acid diethyl ester
(6) [C.A.S. # 13713-41-0] Diethyl methylphosphonite
Diethoxyethylphosphonite
Diethyl methanephosphonate
O,O-Diethyl methylphosphonate
Methylbis(ethoxy)phosphine
Methylphosphonous acid diethyl ester
(7) [C.A.S. # 2404-03-7] Diethyl-N,N-dimethylphosphoramidate
N,N-Dimethyl-O,O'-diethyl phosphoramidate
Diethyl dimethylphosphoramidate
Dimethylphosphoramidic acid diethyl ester
(8) [C.A.S. # 788-04-9] Diethyl phosphite
Diethoxyphosphine oxide
Diethyl acid phosphite
Diethyl hydrogen phosphite
Diethyl phosphonate
Hydrogen diethyl phosphite
(9) [C.A.S. # 100-37-8] N,N-Diethylthalamine
N,N-Diethyl-2-aminethanol
Diethyl (2-hydroxyethyl)amine
N,N-Diethyl-N-(beta-hydroxyethyl)amine
N,N-Diethyl-2-hydroxyethylamine
Diethylaminoethanol
2-(Diethylamino)ethanol
Diethylaminoethyl alcohol
N,N-Diethylaminoethanolamine
2-Hydroxyethyl(diethyl)amine
2-Hydroxyethylamine
(10) [C.A.S. # 5842-07-9] N,N-Diisopropyl-beta-aminothiane thiol
2-(Diisopropylamino)ethanethiol

¹ Chemical name used elsewhere in the List of Chemicals for the ECCN 4798B.

² See footnote 1 to this ECCN 4798B.

³ See footnote 1 to this ECCN 4798B.

⁴ See footnote 1 to this ECCN 4798B.

- Duopropylamineethanol
beta-Duopropylamineethanol
2-Bis(1-Methylamino) ethanol
(1) (C.A.S. #96-80-0) N,N-Duopropyl-beta-amineethanol
N,N-Duopropyl-2-aminoethanol
2-Duopropylamino ethanol
(N,N-Duopropylamino) ethanol
2-Duopropylamino ethyl alcohol
N,N-Duopropylaminoamine
(2) (C.A.S. #96-79-7) N,N-Duopropyl-beta-amineethyl chloride
2-Chloro-N,N-duopropylbenzamine
1-Chloro-N,N-duopropylaminoethane
2-Chloro-N,N-duopropylmethylamine
N-2-chloroethyl-N-(1-methyl-2-propylamino)
N-2-Chloroethyl) duopropylamine
N,N-Duopropyl-2-chloroethylamine
1-Duopropylamino-2-chloroethane
2-Duopropylamino ethyl chloride
Duopropylaminoethyl chloride
beta-Duopropylaminoethyl chloride
(3) (C.A.S. #108-16-0) Duopropylamine
N,N Duopropylamine
N-(1-Methyl-2-propylamino
(4) (C.A.S. #813-73-3) Dimethyl ethylphosphonate
Dimethyl ethylphosphonate
Ethylphosphonic acid dimethyl ester
(5) (C.A.S. #756-79-4) Dimethyl methylphosphonate
Dimethoxymethyl phosphine oxide
Dimethyl methanephosphonate
Methanephosphonic acid dimethyl ester
Methylphosphonic acid dimethyl ester
(6) (C.A.S. #868-45-0) Dimethyl phosphite
Dimethoxyposphine oxide
Dimethyl acid phosphite
Dimethyl hydrogen phosphite
Dimethyl phosphonate
Hydrogen dimethyl phosphite
Methyl phosphonate
(7) (C.A.S. #124-40-3) Dimethylamine
N-Methyl methanamine
(8) (C.A.S. #306-59-2) Dimethylamine hydrochloride
Dimethylammonium chloride
N-Methyl methanamine hydrochloride
(9) (C.A.S. #37856-11-8) O-Ethyl-2-duopropylaminoethyl methylphosphonate (OL)
Methylphosphonic acid 2-bis(1-methyl-2-propylamino) ethyl ester
(20) (C.A.S. #1498-40-4) Ethylphosphonous dichloride
Dichloroethylphosphine
Ethyl phosphonous dichloride
Ethylchlorophosphine
(21) (C.A.S. #430-78-4) Ethylphosphonous difluoride
Ethyl difluorophosphine
(22) (C.A.S. #1066-50-8) Ethylphosphonyl dichloride
Dichloroethylphosphine oxide
Ethylphosphonyl chloride
Ethylphosphonic dichloride
Ethylphosphonic acid dichloride
Ethylphosphonic dichloride
(23) (C.A.S. #753-08-0) Ethylphosphonyl difluoride
Ethyl difluorophosphite
Ethyl difluorophosphine oxide
Ethylphosphonic difluoride
(24) (C.A.S. #7064-28-3) Hydrogen fluoride
Anhydrous hydrofluoric acid
Ethyne acid
Ethyne monohydrate
Hydrofluoric acid gas
(25) (C.A.S. #1334-74-3) 3-Hydroxy-1-methylpiperidine
3-Hydroxy-N-methylpiperidine
1-Methyl-3-hydroxypiperane
N-Methyl-3-hydroxypiperidine
1-Methyl-3-piperidol
N-Methyl-3-piperidol
(26) (C.A.S. #78-09-1) Methyl benzoate
Benzoic acid methyl ester
alpha-Hydroxy-alpha-phenylbenzenecetic acid methyl ester
Methyl alpha-phenylacetate
Methyl dipropylacrylate
(27) (C.A.S. #876-43-3) Methylphosphonous dichloride
Dichloromethylphosphine
Methylchlorophosphine
Methylphosphonous dichloride
(28) (C.A.S. #713-35-3) Methylphosphonous difluoride
Difluoromethylphosphine
Methyl difluorophosphonate
(29) (C.A.S. #878-77-1) Methylphosphonyl dichloride
Dichloromethylphosphine oxide
Methanephosphonic dichloride acid
Methanephosphonyl chloride
Methylphosphonic acid dichloride
Methylphosphonic dichloride
Methylphosphonic dichloride acid
Methylphosphonyl chloride
(30) (C.A.S. #878-69-3) Methylphosphonyl difluoride
Difluoromethylphosphine oxide
Methyl difluorophosphite
Methylphosphonic difluoride
(31) (C.A.S. #10025-87-3) Phosphorus oxychloride
Phosphonyl trichloride
Phosphoric chloride
Phosphonic trichloride
Phosphorylchloride
Phosphoroxylchloride
Phosphoroxyltrichloride
Phosphorus chloride oxide
Phosphorus monoxide trichloride
Phosphorus oxide trichloride
Phosphorus oxytrichloride
Phosphorus trichloride oxide
Phosphoryl trichloride
Trichlorophosphine oxide
Trichlorophosphorus oxide
(32) (C.A.S. #10029-13-8) Phosphorus pentachloride
Pentachlorophosphorane
Pentachlorophosphorus
Phosphoric chloride
Phosphorus(V) chloride
Phosphorus perchloride
(33) (C.A.S. #1314-60-3) Phosphorus pentafluoride
Diphosphorus pentafluoride
Phosphonic sulfide
Phosphorus persulfide
Phosphorus sulfide
(34) (C.A.S. #7719-12-2) Phosphorus trichloride
Phosphorus chloride
Trichlorophosphine
(35) (C.A.S. #79-87-6) Phosgene
tert-Butyl methyl ketone
2,2-Dimethyl-3-butanone
3,3-Dimethyl-2-butanone
2,2-Dimethylbutanone
3,3-Dimethylbutanone
1,1-Dimethylbutanone
1,1-Dimethyl-2-methyl ketone
Methyl tert-butyl ketone
Phosgene
Phosgene
1,1,1-Trimethylacetone
(36) (C.A.S. #466-07-3) Phosgene alcohol
tert-Butyl methyl ketone
2,2-Dimethyl-3-butanol
3,3-Dimethyl-2-butanol
1-Methyl-2,2-dimethylpropanol
(37) (C.A.S. #131-30-6) Potassium cyanide
(38) (C.A.S. #7789-23-3) Potassium fluoride
Potassium monofluoride
(39) (C.A.S. #7789-28-9) Potassium hydrogen fluoride
Hydrogen potassium difluoride
Hydrogen potassium fluoride
Potassium acid fluoride
Potassium bifluoride
Potassium hydrogen difluoride
Potassium monohydrogen difluoride
(40) (C.A.S. #818-94-7) 3-Quinuclidinol
1,2,3,6,7,8,9-Octa-3-ol
3-Hydroxyquinuclidine
(41) (C.A.S. #1731-38-2) 3-Quinuclidinolone
1-Azacyclo[2.2.2]octan-3-one
3-Oxaquinuclidine
Quinuclidone
(42) (C.A.S. #1333-83-1) Sodium bifluoride
Sodium hydrogen difluoride
Sodium hydrogen fluoride
Triphosphorus anhydride
(43) (C.A.S. #143-33-0) Sodium cyanide
(44) (C.A.S. #7789-48-4) Sodium fluoride
Sodium monofluoride
(45) (C.A.S. #8112-85-2) Sodium sulfide
Sodium monosulfide
Disodium sulfide
Oxidized sulfide
Sodium monosulfide
Sodium sulphide
(46) (C.A.S. #111-48-4) Thiodiglycol
Bis(2-hydroxyethyl) sulfide
Bis(2-hydroxyethyl) thioether
Di(2-hydroxyethyl) sulfide
Dethanol sulfide
2,2'-Dithiobis(ethanol)
3-Thiopentane-1,3-diol
2,2'-Thioisethanol
2,2'-Thioisethanol
Thiodiethylene glycol
2,2'-Thiodiglycol
(47) (C.A.S. #7719-09-7) Thionyl chloride
Sulfinyl chloride
Sulfinyl dichloride
Sulfur chloride oxide
Sulfur oxychloride
Sulfurous dichloride
Sulfurous oxychloride
Thionyl dichloride
(48) (C.A.S. #102-71-6) Triethanolamine
Aikanolamine 244
Ninlotriethanol
2,2,2'-Ninlotriethanol
2,2,2'-Ninlotriis(ethanol)
TCA
TCA
Tri(2-hydroxyethyl)amine
Triethanolamine
Tri(2-hydroxyethyl)amine
Tri(2-hydroxyethyl)amine
Trolamine
(49) (C.A.S. #123-43-1) Triethyl phosphite
Phosphorus acid triethyl ester
Triethylphosphite

Trisubstituted phosphorates
 501 (C.A.S. #771-43-9) Trimethyl phosphite
 Phosphorus and trimethyl ester
 Trisubstituted phosphorates
 Dated: March 7, 1991.
 James M. LaMuyosa,
*Deputy Assistant Secretary for Export
 Administration.*
 FR Doc. 91-3659 Filed 3-6-91; 4:25 pm
 BILLING CODE 1510-07-01

15 CFR Parts 770, 776, 778, and 799
 (Docket No. 910241-1041)

**Imposition of Foreign Policy Controls
 on Equipment and Technical Data
 Related to the Production of Chemical
 and Biological Weapons**

AGENCY: Bureau of Export
 Administration, Commerce.

ACTION: Interim rule with request for
 comments.

SUMMARY: In support of U.S. policies
 opposing the proliferation and
 prohibited use of chemical and
 biological weapons, the Department of
 Commerce is imposing foreign policy
 controls on exports of certain dual-use
 equipment that can be used to produce:

(1) Chemicals or biological agents
 controlled by ECCNs 4798B, 4997B, or
 4998B on the Commodity Control List
 (CCL), Supplement No. 1 to § 799.1 of the
 Export Administration Regulations
 (EAR);

(2) Chemicals or biological warfare
 agents controlled under the
 International Traffic in Arms
 Regulations (ITAR) (22 CFR parts 120-
 130).

The Department is also imposing
 foreign policy controls on technical data
 for the production of such equipment.

Specifically, this interim rule amends
 the Export Administration Regulations
 (EAR) to impose validated licensing
 requirements on exports of this
 equipment and technical data to
 Country Groups S and Z and countries
 listed in a new Supplement No. 5 to part
 778 of the EAR.

DATES: This rule is effective March 13,
 1991. Comments must be received by
 April 12, 1991.

ADDRESSES: Written comments (six
 copies) should be sent to Willard Fisher,
 Office of Technology and Policy
 Analysis, Bureau of Export
 Administration, Department of
 Commerce, P.O. Box 273, Washington,
 DC 20044.

FOR FURTHER INFORMATION CONTACT:
 For questions on foreign policy controls,
 call Toni Jackson, Office of Technology
 and Policy Analysis, Bureau of Export

Administration, Telephone: (202) 377-
 4531.

For questions of a technical nature on
 chemical weapon precursors, biological
 agents, and equipment that can be used
 to produce chemical and biological
 agents, call James Seeveratnam, Office
 of Technology and Policy Analysis,
 Bureau of Export Administration,
 Telephone: (202) 377-5695.

SUPPLEMENTARY INFORMATION:

Background

This interim rule amends the Export
 Administration Regulations (EAR) to
 impose a validated licensing
 requirement on exports of certain
 equipment that can be used to produce
 the following:

(1) Chemicals or biological agents
 controlled under ECCNs 4798B, 4997B, or
 4998B on the Commodity Control List
 (CCL);

(2) Chemicals and biological warfare
 agents controlled under the
 International Traffic in Arms
 Regulations (ITAR) (22 CFR parts 120-
 130), administered by the U.S.
 Department of State.

This rule also creates a new § 776.20,
 which imposes a validated licensing
 requirement on exports of technical data
 for the production of such equipment.

The equipment and technical data
 subject to this validated licensing
 requirement have diverse civil
 applications and, thus, are not uniquely
 related to chemical and biological
 weapons production.

The validated licensing requirement
 for this equipment and technical data
 applies only to exports and reexports to
 Country Groups S and Z and the regions
 and countries listed in new Supplement
 No. 5 to part 778 of the EAR. Supplement
 No. 5 includes the Middle Eastern and
 Southwest Asian regions and certain
 other countries.

Section 776.20 establishes the
 licensing policy for renewing
 applications to export or reexport
 equipment and the technical data
 related to chemical and biological
 weapons production. Exports and
 reexports of such items will be denied if
 they would make a material contribution
 to the design, development, production,
 stockpiling, or use of chemical or
 biological weapons.

This rule implements part of
 Executive Order 12735 of November 16,
 1990, on Chemical and Biological
 Weapons Proliferation, as well as the
 Enhanced Proliferation Control Initiative
 (EPCI) announced on December 13, 1990.
 Executive Order 12735 of November 16,
 1990, directs the Secretary of Commerce
 to control exports that the Secretary of

Commerce and the Secretary of State
 determine would assist a country in
 acquiring chemical and biological
 weapons capability. The EPCI directs
 Commerce to control dual-use
 equipment and technical data related to
 chemical and biological weapons. This
 rule creates new Export Control
 Commodity Numbers (ECCNs) in the
 CCL to control this equipment to
 Country Groups S and Z and the regions
 and countries listed in new Supplement
 5 to part 778.

The following ECCNs are added to the
 CCL:

3129F: Chemical processing equipment
 lined with nickel or constructed of
 Hastelloy, Monel, or another alloy with
 nickel content.

3130F: Pumps or valves designed to be
 vapor leak proof.

3131F: Thermometers or other chemical
 processing sensors encased in nickel alloy.

3134F: Filling equipment enclosed in a
 glove box or similar environmental barrier,
 incorporating a nickel-lined or Hastelloy
 nozzle.

3135F: Specially designed incinerators for
 chemical precursors listed in ECCN 4798B,
 chemical warfare agents, or
 organophosphorus compounds.

3140F: Toxic gas monitoring systems.

3141F: Monitoring systems for the detection
 of chemical compounds having
 anticholinesterase activity.

3165F: Detection or assay systems for
 biological agents.

3167F: Biohazard containment equipment

3170F: Equipment for the
 microencapsulation of live microorganisms.

3197F: Intermediate chemicals used in the
 production of chemical warfare agents.

5997F: Complex media for the growth of
 microorganisms.

The United States will seek the
 agreement of all Australia Group
 governments to adopt equivalent
 controls on this equipment. The twenty-
 member Australia Group, in which the
 United States participates, seeks to
 prevent the proliferation of chemical
 and biological weapons.

The Department of Commerce has
 submitted a report to the Congress in
 accordance with section 6 of the Export
 Administration Act of 1979, as amended,
 to support this imposition of U.S. foreign
 policy controls.

The contract sanctity provision
 contained in this rule is consistent with
 the requirements of the Export
 Administration Act of 1979, as amended
 (EAA). However, serious consideration
 is being given to eliminating this
 contract sanctity provision when the
 final rule is published, in light of the
 serious concerns raised by chemical and
 biological weapons. The Department
 invites public comments on this issue, as

and as all other aspects of the regulation.

Consistent with the prohibitions on trade with Iraq and Kuwait contained in the Executive Orders issued on August 2 and 9, 1990, exporters should obtain guidance from the Office of Foreign Assets Control, U.S. Department of Treasury, concerning any export or reexport to Iraq or Kuwait.

Saving Clause

Shipments of items removed from general license authorizations as a result of this regulatory action that were on dock for loading, on lighter, laden aboard an exporting carrier, or en route aboard carrier to a port of export pursuant to actual orders for export before March 27, 1991, may be exported under the previous general license provisions up to and including April 10, 1991. Any such items not actually exported before midnight April 10, 1991, require a validated export license in accordance with this regulation.

Rulemaking Requirements

1. This rule is consistent with Executive Orders 12591 and 12591.
 2. This rule involves collections of information subject to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). These collections have been approved by the Office of Management and Budget under control numbers 0694-0005 and 0694-0010.
 3. This rule does not contain policies with Federalism implications sufficient to warrant preparation of a Federalism assessment under Executive Order 12812.
 4. Because a notice of proposed rulemaking and an opportunity for public comment are not required to be given for this rule by section 553 of the Administrative Procedure Act (5 U.S.C. 553) or by any other law, under sections 603(a) and 604(a) of the Regulatory Flexibility Act (5 U.S.C. 603(a) and 604(a)) no initial or final Regulatory Flexibility Analysis has to be or will be prepared.
 5. The provisions of the Administrative Procedure Act, 5 U.S.C. 553, requiring notice of proposed rulemaking, the opportunity for public participation, and a delay in effective date: are inapplicable because this regulation involves a foreign and military affairs function of the United States. No other law requires that a notice of proposed rulemaking and an opportunity for public comment be given for this rule.
- However, because of the importance of the issues raised by these regulations, this rule is issued in interim form and comments will be considered in the

development of final regulations.

Accordingly, the Department encourages interested persons who wish to comment to do so at the earliest possible time to permit the fullest consideration of their views. Comments on the contract sanctity provision contained in this rule are especially encouraged.

The period for submission of comments will close April 12, 1991. The Department will consider all comments received before the close of the comment period in developing final regulations. Comments received after the end of the comment period will be considered if possible, but their consideration cannot be assured. The Department will not accept public comments accompanied by a request that a part or all of the material be treated confidentially because of its business proprietary nature or for any other reason. The Department will return such comments and materials to the person submitting the comments and will not consider them in the development of final regulations. All public comments on these regulations will be a matter of public record and will be available for public inspection and copying, in the interest of accuracy and completeness, the Department requires comments in written form. Oral comments must be followed by written memoranda, which will also be a matter of public record and will be available for public review and copying. Communications from agencies of the United States Government or foreign governments will not be made available for public inspection.

The public record concerning these regulations will be maintained in the Bureau of Export Administration Freedom of Information Records Inspection Facility, room 4523, Department of Commerce, 14th Street and Pennsylvania Avenue NW., Washington, DC 20250. Records in this facility, including written public comments and memoranda summarizing the substance of oral communications, may be inspected and copied in accordance with regulations published in part 4 of title 15 of the Code of Federal Regulations. Information about the inspection and copying of records at the facility may be obtained from Margaret Cornejo, Bureau of Export Administration Freedom of Information Officer, at the above address or by calling (202) 377-5653.

List of Subjects

15 CFR Part 770

Administrative practice and procedure, Exports.

15 CFR Parts 778 and 799

Exports, Reporting and recordkeeping requirements.

15 CFR Part 778

Exports, Nuclear energy, Reporting and recordkeeping requirements.

Accordingly, parts 770, 778, 778, and 799 of the Export Administration Regulations (15 CFR parts 730-799) are amended as follows:

1. The authority citation for 15 CFR parts 770, 778 and 778 is revised to read as follows:

Authority: Public Law 96-72, 93 Stat. 303 (50 U.S.C. app. 2401 et seq.), as amended; Public Law 96-321, 91 Stat. 1626 (50 U.S.C. 1701 et seq.); Public Law 95-342, 91 Stat. 141 (42 U.S.C. 21301); E.O. 12730 of September 30, 1990 (55 FR 40373, October 2, 1990); and E.O. 12734 of November 18, 1990 (56 FR 46567, November 20, 1990).

2. The authority citation for 15 CFR part 799 is revised to read as follows:

Authority: Public Law 96-72, 93 Stat. 303 (50 U.S.C. app. 2401 et seq.), as amended; Public Law 95-321, 91 Stat. 1626 (50 U.S.C. 1701 et seq.); E.O. 12730 of September 30, 1990 (55 FR 40373, October 2, 1990); and E.O. 12734 of November 18, 1990 (56 FR 46567, November 20, 1990).

PART 770—(AMENDED)

3. Section 770.2 is amended by adding alphabetically a definition for "Middle East" a definition for "Southwest Asia" to read as follows:

§ 770.2 Definitions of terms.

Middle East. Geographically, this region is understood to include Bahrain, Egypt, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, and Yemen.

Southwest Asia. Geographically, this region is understood to include Afghanistan, India, Iran, and Pakistan.

PART 778—(AMENDED)

4. Part 778 is amended by adding a new § 778.20 to read as follows:

§ 778.20 Equipment and technical data related to the production of chemicals and biological agents.

(a) The following controls on equipment and technical data related to the production of chemicals and biological agents are maintained in support of the U.S. foreign policy of opposing the proliferation and illegal use of chemical and biological weapons:

(1) Equipment identified in ECCNs 5129F, 5132F, 5133F, 5134F, 5135F, 5140F, and 5141F in the Commodity Control List which can be used in the production of chemical weapons precursors and chemical warfare agents requires a validated license for export from the United States to Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

(2) Equipment and materials identified in ECCNs 5165F, 5167F, 5170F, 5775F, and 5997F, which can be used in the production of biological agents, require a validated license for export from the United States to Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

(3) Technical data for the production of commodities described in paragraphs (a)(1) and (a)(2) of this section are not eligible for General License GDDR, if destined for a country listed in Supplement No. 5 to part 778 of this subchapter.

(b) *Licensing policy.* (1) Unless the criteria stated in paragraph (b)(3) of this section are met, applications to export the commodities and technical data described in paragraph (a) of this section will be considered on a case-by-case basis to determine whether the export would make a material contribution to the design, development, production, stockpiling, or use of chemical or biological weapons. When an export is deemed to make such a contribution, the license will be denied.

(2) The following factors are among those that will be considered to determine what action should be taken on individual applications:

- (i) The specific nature of the end-use;
- (ii) The significance of the export in terms of its contribution to the design, development, production, stockpiling, or use of chemical or biological weapons;
- (iii) The non-proliferation credentials of the importing country; and
- (iv) The types of assurances or guarantees against the design, development, production, stockpiling, or use of chemical or biological weapons that are given in a particular case.

(3) The contract sanctity date for the commodities and technical data described in paragraph (a) of this section is March 7, 1991.

PART 778—(AMENDED)

5. Part 778 is amended by adding a new Supplement No. 5 to read as follows:

Supplement No. 5—Dual-use Chemical and Biological Equipment Regions, Countries, and Other Destinations
Bulgaria

Cuba (People's Republic of)
 Cuba
 Middle East¹
 Myanmar (Burma)
 North Korea
 Romania
 South Africa
 Southwest Asia²
 Soviet Union
 Taiwan
 Vietnam

PART 799—(AMENDED)

Supplement No. 1 to § 799.1 (Amended)

5. In Supplement No. 1 to Section 799.1 of the Commodity Control List, Commodity Group 1 (Chemical and Petroleum Equipment), a new ECCN 5129F is added immediately following ECCN 4128B, as follows:

5129F Chemical processing equipment lined with nickel or constructed of Hastelloy, Monel, or another alloy with nickel content.

Controls for ECCN 5129F

Unit: Report in "number".

Validated License Required: Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

GLV \$ Value Limit: \$0 for all destinations.

Processing Code: TE.

Reason for Control: Foreign policy.

Special Licenses Available: None.

List of Equipment Controlled by ECCN 5129F

Any of the following types of chemical processing equipment lined with nickel or constructed of Hastelloy, Monel, or another alloy with a nickel content in excess of 40% by weight, as follows:

- (a) Reactor vessels with a capacity greater than 5 liters;
- (b) Storage tanks and containers with a capacity greater than 10 liters;
- (c) Heat exchangers;
- (d) Distillation columns with a capacity greater than 2 liters per hour;
- (e) Degassing equipment or condensers.

7. In Supplement No. 1 to section 799.1 of the Commodity Control List, Commodity Group 1 (Chemical and Petroleum Equipment), a new ECCN 5132F is added immediately following ECCN 5131A, as follows:

5132F Pumps or valves designed to be vapor leak proof.

Controls for ECCN 5132F

Unit: Report in "number".

¹ See § 770.2 of this subchapter for definitions.

² See footnote 1.

Validated License Required: Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

GLV \$ Value Limit: \$0 for all destinations.

Processing Code: TE.

Reason for Control: Foreign policy.

Special Licenses Available: None.

List of Equipment Controlled by ECCN 5132F

Pumps or valves having any of the following characteristics:

- (a) Incorporating a body made from alloy with a nickel content in excess of 40% by weight;
- (b) Lined with nickel; or
- (c) Otherwise designed to be vapor leak proof.

Note: This ECCN 5132F controls double seal, electromagnetic drive, or canned pumps, as well as or diaphragm valves, having any of the characteristics described in paragraphs (a) through (c) of the List of Equipment Controlled.

8. In Supplement No. 1 to § 799.1 of the Commodity Control List, Commodity Group 1 (Chemical and Petroleum Equipment), a new ECCN 5133F is added immediately following ECCN 5132F, as follows:

5133F Thermometers or other chemical process sensors encased in nickel alloy having a nickel content greater than 40%.

Controls for ECCN 5133F

Unit: Report in "number".

Validated License Required: Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

GLV \$ Value Limit: \$0 for all destinations.

Processing Code: TE.

Reason for Control: Foreign policy.

Special Licenses Available: None.

9. In Supplement No. 1 to § 799.1 of the Commodity Control List, Commodity Group 1 (Chemical and Petroleum Equipment), a new ECCN 5134F is added immediately following ECCN 5133F, as follows:

5134F Filling equipment enclosed in a glove box or similar environmental barrier, or incorporating a nickel-lined or Hastelloy nozzle.

Controls for ECCN 5134F

Unit: Report in "number".

Validated License Required: Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

GLV \$ Value Limit: \$0 for all destinations.

Processing Code: TE.

(1) Equipment identified in ECCNs 5129F, 5132F, 5133F, 5134F, 5135F, 5140F, and 5141F in the Commodity Control List, which can be used in the production of chemical weapons precursors and chemical warfare agents, requires a validated license for export from the United States to Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

(2) Equipment and materials identified in ECCNs 5165F, 5167F, 5170F, 5797F, and 5997F, which can be used in the production of biological agents, require a validated license for export from the United States to Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

(3) Technical data for the production of commodities described in paragraphs (a)(1) and (a)(2) of this section are not eligible for General License GTDR if destined for a country listed in Supplement No. 5 to part 778 of this subchapter.

(b) *Licensing policy.* (1) Unless the criteria stated in paragraph (b)(3) of this section are met, applications to export the commodities and technical data described in paragraph (a) of this section will be considered on a case-by-case basis to determine whether the export would make a material contribution to the design, development, production, stockpiling, or use of chemical or biological weapons. When an export is deemed to make such a contribution, the license will be denied.

(2) The following factors are among those that will be considered to determine what action should be taken on individual applications:

- (i) The specific nature of the end-use;
 - (ii) The significance of the export in terms of its contribution to the design, development, production, stockpiling, or use of chemical or biological weapons;
 - (iii) The non-proliferation credentials of the importing country; and
 - (iv) The types of assurances or guarantees against the design, development, production, stockpiling, or use of chemical or biological weapons that are given in a particular case.
- (3) The correct sanction date for the commodities and technical data described in paragraph (a) of this section is March 7, 1991.

PART 778—(AMENDED)

5. Part 778 is amended by adding a new Supplement No. 5 to read as follows:

Supplement No. 5—Dual-use Chemical and Biological Equipment: Regions, Countries, and Other Destinations
(Bulgaria)

China (People's Republic of),
Cuba,
Middle East,
Myanmar (Burma),
North Korea,
Romania,
South Africa,
Southwest Asia,
Soviet Union,
Taiwan,
Vietnam.

PART 799—(AMENDED)

Supplement No. 1 to § 799.1 (Amended)

5. In Supplement No. 1 to Section 799.1 (the Commodity Control List), Commodity Group 1 (Chemical and Petroleum Equipment), a new ECCN 5129F is added immediately following ECCN 4128B, as follows:

5129F Chemical processing equipment lined with nickel or constructed of Hastelloy, Monel, or another alloy with nickel content.

Controls for ECCN 5129F

Unit: Report in "number".

Validated License Required: Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

GLV \$ Value Limit: \$0 for all destinations.

Processing Code: TE.

Reason for Control: Foreign policy.

Special Licenses Available: None.

List of Equipment Controlled by ECCN 5129F

Any of the following types of chemical processing equipment lined with nickel or constructed of Hastelloy, Monel, or another alloy with a nickel content in excess of 40% by weight, as follows:

- (a) Reactor vessels with a capacity greater than 5 liters;
- (b) Storage tanks and containers with a capacity greater than 10 liters;
- (c) Heat exchangers;
- (d) Distillation columns with a capacity greater than 2 liters per hour;
- (e) Degassing equipment or condensers.

7. In Supplement No. 1 to section 799.1 (the Commodity Control List), Commodity Group 1 (Chemical and Petroleum Equipment), a new ECCN 5132F is added immediately following ECCN 5131A, as follows:

5132F Pumps or valves designed to be vapor leak proof.

Controls for ECCN 5132F

Unit: Report in "number".

¹ See § 778.3 of this subchapter for definitions.

² See footnote 1.

Validated License Required: Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

GLV \$ Value Limit: \$0 for all destinations.

Processing Code: TE.

Reason for Control: Foreign policy.

Special Licenses Available: None.

List of Equipment Controlled by ECCN 5132F

Pumps or valves having any of the following characteristics:

- (a) Incorporating a body made from alloy with a nickel content in excess of 40% by weight;
- (b) Lined with nickel; or
- (c) Otherwise designed to be vapor leak proof.

Note: This ECCN 5132F controls double seal, electromagnetic drive, or canned pumps, and bellows or diaphragm valves, having any of the characteristics described in paragraphs (a) through (c) of the List of Equipment Controlled.

8. In Supplement No. 1 to § 799.1 (the Commodity Control List), Commodity Group 1 (Chemical and Petroleum Equipment), a new ECCN 5133F is added immediately following ECCN 5132F, as follows:

5133F Thermometers or other chemical process sensors encased in nickel alloy having a nickel content greater than 40%.

Controls for ECCN 5133F

Unit: Report in "number".

Validated License Required: Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

GLV \$ Value Limit: \$0 for all destinations.

Processing Code: TE.

Reason for Control: Foreign policy.

Special Licenses Available: None.

9. In Supplement No. 1 to § 799.1 (the Commodity Control List), Commodity Group 1 (Chemical and Petroleum Equipment), a new ECCN 5134F is added immediately following ECCN 5133F, as follows:

5134F Filling equipment enclosed in a glove box or similar environmental barrier, or incorporating a nickel-lined or Hastelloy nozzle.

Controls for ECCN 5134F

Unit: Report in "number".

Validated License Required: Country Groups S and Z countries listed in Supplement No. 5 to part 778 of this subchapter.

GLV \$ Value Limit: \$0 for all destinations.

Processing Code: TE.

Reason for Control: Foreign policy.
Special Licenses Available: None.
10. In Supplement No. 1 to § 799.1 (the Commodity Control List), Commodity Group 1 (Chemical and Petroleum Equipment), a new ECCN 5135F is added immediately following ECCN 5134F, as follows:

5135F Specially designed incinerators for chemical precursors listed in ECCN 4794B, chemical warfare agents, or organophosphorus compounds.

Controls for ECCN 5135F

Unit: Report in "number".

Validated License Required: Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

GLV \$ Value Limit: \$0 for all destinations.

Processing Code: TE.

Reason for Control: Foreign policy.
Special Licenses Available: None.
11. In Supplement No. 1 to § 799.1 (the Commodity Control List), Commodity Group 1 (Chemical and Petroleum Equipment), a new ECCN 5140F is added immediately following ECCN 5135F, as follows:

5140F Toxic gas monitoring systems.

Controls for ECCN 5140F

Unit: Report in "number".

Validated License Required: Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

GLV \$ Value Limit: \$0 for all destinations.

Processing Code: TE.

Reason for Control: Foreign policy.
Special Licenses Available: None.

List of Equipment Controlled by ECCN 5140F

Toxic gas monitoring systems designed to detect phosphorus, sulphur, or fluorine compounds, or designed to detect any chemical weapons precursor, or chemical warfare agent, that are:

- (a) Designed for continuous operation; and
(b) Capable of detecting such chemicals at a concentration less than 0.1 milligrams per cubic meter of air.
12. In Supplement No. 1 to § 799.1 (the Commodity Control List), Commodity Group 1 (Chemical and Petroleum Equipment), a new ECCN 5141F is added immediately following ECCN 5140F, as follows:

5141F Monitoring systems for the detection of chemical compounds having arachidonic acid activity.

Controls for ECCN 5141F

Unit: Report in "number".

Validated License Required: Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

GLV \$ Value Limit: \$0 for all destinations.

Processing Code: TE.

Reason for Control: Foreign policy.

Special Licenses Available: None.
13. In Supplement No. 1 to § 799.1 (the Commodity Control List), Commodity Group 1 (Chemical and Petroleum Equipment), a new ECCN 5145F is added immediately following ECCN 5145F, as follows:

5145F Detection or assay systems that are capable of detecting concentrations of less than one part per million in air of biological agents or toxins controlled by ECCN 4997B or ECCN 4998B.

Controls for ECCN 5145F

Unit: Report in "number".

Validated License Required: Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

GLV \$ Value Limit: \$0 for all destinations.

Processing Code: TE.

Reason for Control: Foreign policy.

Special Licenses Available: None.
14. In Supplement No. 1 to § 799.1 (the Commodity Control List), Commodity Group 1 (Chemical and Petroleum Equipment), a new ECCN 5167F is added immediately following ECCN 5165F, as follows:

5167F Biohazard containment equipment.

Controls for ECCN 5167F

Unit: Report in "number".

Validated License Required: Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

GLV \$ Value Limit: \$0 for all destinations.

Processing Code: TE.

Reason for Control: Foreign policy.

Special Licenses Available: None.

List of Equipment Controlled Under ECCN 5167F

Biohazard containment equipment, as follows:

(a) Complete P3 or P4 level laboratory facilities;

(b) Equipment that incorporates or is contained in a P-3 or P-4 containment housing.

15. In Supplement No. 1 to § 799.1 (the Commodity Control List), Commodity Group 1 (Chemical and Petroleum Equipment), a new ECCN 5170F is added immediately following ECCN 5167F, as follows:

5170F Equipment for the microencapsulation of live microorganisms.

Controls for ECCN 5170F

Unit: Report in "number".

Validated License Required: Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

GLV \$ Value Limit: \$0 for all destinations.

Processing Code: TE.

Reason for Control: Foreign policy.

Special Licenses Available: None.

16. In Supplement No. 1 to section 799.1 (the Commodity Control List), Commodity Group 7 (Chemicals, Metalloids, Petroleum Products and Related Materials), a new ECCN 5797F is added immediately following ECCN 4794B, as follows:

5797F Intermediate chemicals used in the production of chemical warfare agents.

Controls for ECCN 5797F

Unit: Report in "S value".

Validated License Required: Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

GLV \$ Value Limit: \$0 for all destinations.

Processing Code: TE.

Reason for Control: Foreign policy.

Special Licenses Available: None.

List of Chemicals Controlled by ECCN 5797F

(a) (C.A.S. #663-13-0) Di-

isopropylcarbodiimide;

(b) (C.A.S. #536-75-0) Di-

cyclohexoxcarbodiimide.

17. In Supplement No. 1 to § 799.1 (the Commodity Control List), Commodity Group 9 (miscellaneous), a new ECCN 5997F is added immediately following ECCN 4997B, as follows:

5997F Complex media (specifically brain heart infusion media) for the growth of microorganisms in Class 3 or Class 4, in quantities greater than 100 kilograms.

Controls for ECCN 5997F

Unit: Report in "number".

Validated License Required: Country Groups S and Z and countries listed in Supplement No. 5 to part 778 of this subchapter.

GLV \$ Value Limit: \$0 for all destinations.

Processing Code: TE.

Reason for Control: Foreign policy.

Special Licenses Available: None.

Dated: March 7, 1970.

James M. Lafferty, Jr.,

Deputy Assistant Secretary for Export
Administration.

(FR Doc. 71-4480 Filed 3-6-70; 6:25 pm)
GALING CODE 328-07-0

DEPARTMENT OF COMMERCE

Bureau of Export Administration

15 CFR Parts 771, 776, and 778

(Docket No. 910249-1049)

Imposition and Expansion of Foreign Policy Controls

AGENCY: Bureau of Export Administration, Commerce.

ACTION: Proposed rule and request for public comment.

SUMMARY: The Department of Commerce is proposing to amend the Export Administration Regulations (EAR) in support of U.S. non-proliferation policies. This proposal would impose foreign policy controls on certain exports by providing authority to deny items that already require a validated license, for any reason other than short supply, where the export is determined to be for a facility involved in the design, development, production, or use of missiles or chemical or biological weapons.

This proposal would also impose foreign policy controls on exports to specified destinations when the exporter knows, or to any destination when the exporter is informed by the Office of Export Licensing (OEL), that the commodities, technical data, or software will be used in the design, development, production or use of missiles or of chemical or biological weapons, or are destined for a facility engaged in such activities.

In addition, this proposal would impose foreign policy controls on exports to specified destinations when a U.S. person knows, or to any destination when the U.S. person is informed by OEL that the commodities, technical data, or software will be used in the design, development, production, or use of missiles or chemical or biological weapons, or are destined for a facility engaged in such activities. Neither may a U.S. person without a validated license, perform any contract, service, or employment knowing that it assists such activities.

This proposal would also impose foreign policy controls on participation and support by U.S. persons in the design, development, production, or use of missiles or of chemical or biological weapons.

This proposal would restrict participation by U.S. persons in construction of whole plants to produce chemical weapon precursors in certain countries.

This proposal would also make changes in the organization of

regulations relating to weapons proliferation, grouping them in newly designated part 778, **Proliferation Controls**.

DATE: Comments must be received by April 12, 1991.

ADDRESSES: Written comments (six copies) should be sent to: Patricia Muldowney, Office of Technology and Policy Analysis, Bureau of Export Administration, Department of Commerce, Washington, DC 20230.

FOR FURTHER INFORMATION CONTACT: Kathryn Sullivan, Bureau of Export Administration, Telephone: (202) 377-8760.

SUPPLEMENTARY INFORMATION**Background**

The Department of Commerce, in consultation with the Department of State, has decided to propose expanding foreign policy controls in several ways in support of U.S. non-proliferation policies.

One proposed EAR change would provide authority to deny a license for exports of items that already require a validated license, for any reason other than short supply, where the export is destined for the design, development, production, or use of missiles or chemical or biological weapons, or for a facility engaged in such activities.

The proposed rule would also impose foreign policy controls on exports to specified destinations when the exporter knows the export will be used in the design, development, production, stockpiling, or use of missiles or of chemical or biological weapons, or is destined for a facility engaged in such activities.

The rule does not provide a proposed definition of the term "know." However, consideration is being given to whether such a definition is advisable. The following definition is under consideration for inclusion in the final rule, and comments on the need for and wording of a definition are especially encouraged.

Know. Except as the term is used in part 768, a person shall be considered to know a circumstance or result when that person:

(a) Is aware that such circumstance exists, or that such result is substantially certain to occur; or

(b) Has a firm belief that such circumstance exists, or that such result is substantially certain to occur.

A person knows of the existence of a particular circumstance if that person is aware of a high probability of the existence of such circumstance, unless

the person actually believes that such circumstance does not exist.

In addition, the proposed rule would amend the EAR to make clear that the Office of Export Licensing may inform an exporter at any time that a validated license is required for a specific export, or reexport transaction or for exports or reexports to a specific end-user or end-use because of an unacceptable risk that such shipments will be used in sensitive nuclear activities. In the design, development, production, stockpiling, or use of chemical or biological weapons, or in the design, development, production or use of missiles. An exporter or reexporter may be individually informed by OEL, or notice may be published in the Federal Register. This proposal would provide new supplements to the EAR to identify regions and countries, as well as facilities and projects, to which certain validated license requirements apply.

Also, the proposed rule would substitute the term "missiles" for the current "missiles capable of delivering nuclear weapons". The definition of such missiles, as contained in the EAR, is not affected by this change.

Also, the proposed rule would add a new provision to the EAR to restrict participation by U.S. persons in missile, chemical weapons, or biological weapons development. No U.S. person may knowingly export or reexport to specified destinations commodities, software, or technical data, regardless of origin, for use in the design, development, production, stockpiling, or use of chemical or biological weapons, or of missiles, or to a facility engaged in such activities. Nor may a U.S. person, without a validated license, perform any contract, service, or employment knowing that it assists such activities. When a U.S. person has been informed by OEL these prohibitions apply to any destination. In addition, the rule restricts participation and support by U.S. persons in the design, construction, or export of whole plants to make precursors for chemical weapons. This prohibition also extends to support of any such transactions, through financing, freight forwarding, or other comparable activities. The term "U.S. person" is defined for the purposes of these provisions to include foreign branches of companies organized in the United States.

In amending the Export Administration Act of 1979 in 1985, the Congress added section 6(m), which prohibited the President from restricting transactions in performance of a contract entered into before the date of a report to Congress of the intent to

impose a foreign policy control. The effect of that provision has been to require approval of export license applications when a contract predates the control program, unless denial is based on some other contract provision of the EAR. While contract sanctity is provided in this proposal, serious consideration is being given to eliminating these contract sanctity provisions when the final rule is published, in light of the serious concerns raised by missiles or chemical or biological weapons. The Department invites public comments on this issue, as well as all other aspects of the regulation.

Consistent with the prohibitions on trade with Iraq and Kuwait contained in the Executive Orders issued on August 2 and 8, 1990, exporters should obtain guidance from the U.S. Department of Treasury, Office of Foreign Assets Control concerning any export or reexport to Iraq or Kuwait.

On March 7, 1991, the Department submitted a report notifying the Congress of its intent to impose these controls. To provide contract sanctity, export licenses may be issued on a case-by-case basis for the export of commodities, software, or technical data subject to these new controls in performance of a contract or an agreement entered into before March 7, 1991 (the date of notification to the Congress of intent to impose these controls).

Rulemaking Requirements and Invitation to Comment

1. This rule is consistent with Executive Orders 12291 and 12581.
2. This rule involves collections of information subject to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). These collections have been approved by the Office of Management and Budget under control numbers 0694-0005 and 0694-0010.
3. This rule does not contain policies with Federalism implications sufficient to warrant preparation of a Federalism assessment under Executive Order 12812.
4. Because a notice of proposed rulemaking and an opportunity for public comment are not required to be given for this rule by section 553 of the Administrative Procedure Act (5 U.S.C. 553), or by any other law, under sections 603(a) and 604(a) of the Regulatory Flexibility Act (5 U.S.C. 603(a) and 604(a)) no initial or final Regulatory Flexibility Analysis has to be or will be prepared.
5. The provisions of the Administrative Procedure Act, 5 U.S.C. 553, requiring notice of proposed

rulemaking, the opportunity for public participation, and a delay in effective date, are inapplicable because this regulation involves a foreign and military affairs function of the United States. The Secretary of Commerce has submitted a report to Congress on the need for these controls. No other law requires that a notice of proposed rulemaking and an opportunity for public comment be given for this rule.

However, because of the importance of the issues raised by these regulations, this rule is being issued in proposed form and comments will be considered in the development of final regulations. Accordingly, the Department encourages interested persons who wish to comment to do so at the earliest possible time to permit the fullest consideration of their views. Comments on the suggested definition of "know" and on the contract sanctity provisions contained in this rule are especially encouraged.

The period for submission of comments will close (April 12, 1991). The Department will consider all comments received before the close of the comment period in developing final regulations. Comments received after the end of the comment period will be considered if possible, but their consideration cannot be assured. The Department will not accept public comments accompanied by a request that part or all of the material be treated confidentially because of its business proprietary nature or for any other reason. The Department will return such comments and will not consider them in the development of final regulations. All public comments on these regulations will be a matter of public record and will be available for public inspection and copying. In the interest of accuracy and completeness, the Department requires comments in written form. Oral comments must be followed by written memoranda, which will also be a matter of public record and will be available for public review and copying. Communications from agencies of the United States Government or foreign governments will not be made available for public inspection.

The public record concerning these regulations will be maintained in the Bureau of Export Administration Freedom of Information Records Inspection Facility, room 4318, Department of Commerce, 14th Street and Pennsylvania Avenue, NW, Washington, DC 20258. Records in this facility, including written public comments and memoranda summarizing the substance of oral communications, may be inspected and copied in accordance with regulations published

in part 4 of title 15 of the Code of Federal Regulations. Information about the inspection and copying of records at the facility may be obtained from Margaret Cornejo, Bureau of Export Administration Freedom of Information Officer, at the above address or by calling (202) 377-2533.

List of Subjects

15 CFR Parts 771 and 778

Exports, Reporting and recordkeeping requirements.

15 CFR Part 778

Exports, Nuclear energy, Reporting and recordkeeping requirements.

Accordingly, parts 771, 778, and 778 of the Export Administration Regulations (15 CFR parts 750-799) are amended as follows:

1. The authority citations for parts 771 and 778 are revised to read as follows:

Authority: Public Law 96-72, 93 Stat. 320 (50 U.S.C. app. 2491 et seq.), as amended; Public Law 96-223, 91 Stat. 1628 (50 U.S.C. 1701 et seq.); Executive Order 12730 of September 30, 1990 (55 FR 40373, October 2, 1990); Executive Order 12733 of November 16, 1990 (55 FR 48567, November 20, 1990).

2. The authority citation for part 778 is revised to read as follows:

Authority: Public Law 96-72, 93 Stat. 320 (50 U.S.C. app. 2491 et seq.), as amended; Public Law 96-223, 91 Stat. 1628 (50 U.S.C. 1701 et seq.); Public Law 96-223, 91 Stat. 141 (42 U.S.C. 2132(a)); Executive Order 12730 of September 30, 1990 (55 FR 40373, October 2, 1990); and Executive Order 12733 of November 16, 1990 (55 FR 48567, November 20, 1990).

PART 771—AMENDED

1. Section 771.2(c) is amended by removing the word "or" at the end of paragraphs (c)(11) and (c)(12), and by adding new paragraphs (c)(13) and (c)(14) to read as follows:

§ 771.2 General provisions.

- (c) * * *
- (13) The exporter either:
- (i) Knows that the commodity,

software or technical data:

- (A) Are destined for any facility or project listed in Supplement No. 7 to part 778 of this subchapter; or

- (B) Will be used in the design, development, production, or use of missiles in or by a country where a facility or project listed in Supplement No. 7 to part 778 of this subchapter is located; or

- (ii) Is informed by OEL that a validated license is required for export to a consignee, wherever located.

because the export may apply to the design, development, production, or use of missiles:

(14) The exporter either:
(i) Knows that the commodity, software or technical data;

(A) Are deemed for any facility listed in Supplement No. 6 to part 778 of this subchapter; or

(B) Will be used in the design, development, production, stockpiling, or use of chemical or biological weapons in or by a country listed in Supplement No. 5 to part 778; or

(ii) Is informed by OEL that a validated license is required for export to a consignee, wherever located, because the export may apply to the design, development, production, stockpiling, or use of chemical or biological weapons.

PART 776—AMENDED

4. Part 776 is amended by removing §§ 776.1A, 776.19, and 776.20.

5. The heading to part 776 is revised to read as follows:

PART 776—PROLIFERATION CONTROLS

6. Section 776.1 is revised to read as follows:

§ 776.1 Purpose.

(a) *Scope.* This part defines the types of transactions that are governed by the U.S. policy concerning the non-proliferation of chemical and biological weapons, nuclear weapons or explosive devices, missile systems and the U.S. maritime nuclear propulsion policy. The controls implement policies set out in section 3(2) (A) and (B) of the Export Administration Act and section 309(c) of the Nuclear Non-Proliferation Act of 1978 (Pub. L. 95-242), that is:

(1) To exercise the necessary vigilance from the standpoint of their significance to the national security of the United States;

(2) To further significantly the foreign policy of the United States or to fulfill its international responsibilities; and

(3) To maintain controls over items because of their potential significance for nuclear explosive purposes.

(b) *Related legislation.* These controls supplement those exercised by the Nuclear Regulatory Commission and the Department of Energy under the Atomic Energy Act of 1954, as amended by the Nuclear Non-Proliferation Act of 1978 and other statutes, and by the Office of Defense Trade Controls, Department of State, under the Arms Export Control Act of 1976. (See § 770.10 of this subchapter.)

§ 776.2 (Amended)

7. (a) § 776.2 paragraph (a) is amended by removing the last two sentences.

(b) Section 776.3 is amended by adding two new sentences at the end of the introductory text to read as follows:

§ 776.3 Additional validated license requirements for exports with certain nuclear end-uses.

When the Office of Export Licensing determines that there is an unacceptable risk of use in or diversion to such activities, it may inform the exporter, either individually or through amendment to the regulations in this subchapter, that an individual validated license is required. However, the absence of any such notification does not excuse the exporter from compliance with the validated license requirements of this section.

8. A new § 776.6 is added to read as follows:

§ 776.6 Preparing nuclear-related application.

An application for a license to export commodities or technical data subject to provisions of § 776.2, § 776.3, or § 776.5 shall be prepared and submitted on Form BXA-622P, Application for Export License, in accordance with instructions set forth in §§ 772.5 and 779.5(e) of this subchapter with the following additional instructions:

(a) Identification of License Application.

Enter the words "NUCLEAR CONTROLS" in item 4, "Special Purpose," of Form BXA-622P.

(b) *Consignee in country of ultimate destination.* If the consignee in the country of ultimate destination is not the end-user of the commodities give the name and address of the end-user in item 12, "Special End-Use," or on an attachment to the application, and if known, the specific geographic locations of any installations, establishments, or sites at which the commodities will be used.

(c) *Commodity description.* (1) If the CCL entry in question is divided into sub-entries, indicate the specific sub-entry that describes the commodity. In addition, specifications or descriptive brochures should be provided when available.

(2) If applicable, include a description of any specific features of design or specific modifications that make the commodity capable of the uses described in § 776.1.

(d) *End-use.* (1) A vague or general end-use description will delay review of an application. Applications indicating resale as the end-use sometimes must be returned without action in order to obtain more information.

(2) When submitting an application under § 776.1, fully explain the basis for

the knowledge or belief that the commodities are intended for the purposes described therein.

Additionally, indicate, if possible, the specific end-use(s) the commodities will have in the design, developing, fabricating, or testing nuclear weapons or nuclear explosive devices or in the designing, constructing, fabricating, or operating the facilities described in § 776.3.

9. Sections 776.7 and 776.8 are revised to read as follows:

§ 776.7 Equipment and related technical data used in the design, development, production, or use of missiles.

(a) *Validated license requirements.* In support of U.S. foreign policy to limit the proliferation of missiles, an individual validated license is required to export certain commodities, software, and technical data related to the design, development, production, or use of such missiles to Country Groups QSTVWYZ.

(1) *Commodities subject to weapons delivery systems controls.* The commodities that require a validated license because they are subject to foreign policy controls on weapons delivery systems appear within ECCNs 2018A, 2118A, 4118B, 4302B, 1357A, 1361A, 1362A, 1365A, 1460A, 1465A, 1501A, 1516A, 1517A, 4516B, 1522A, 1529A, 4529B, 1531A, 1533A, 1564A, 4564B, 1565A, 1568A, 4568A, 4569B, 1595A, 1715A, and 1746A. Exporters should consult the Reason for Control paragraph in each ECCN to determine the specific items subject to these foreign policy controls.

(2) *Technical data and software subject to weapons delivery systems controls.* Technical data and software that require a validated license because they are subject to foreign policy controls on nuclear weapons delivery systems are listed in paragraph (4) of Supplement No. 4 to part 779 of this subchapter.

(3) *Definition.* The term "missiles" is defined as rocket systems (including ballistic missile systems, space launch vehicles, and sounding rockets) and unmanned air vehicle systems (including cruise missile systems, target drones, and reconnaissance drones) capable of delivering at least 500 kilograms (kg) payload to a range of at least 300 kilometers (km).

(b) *Controls on other commodities, technical data, and software.* BXA will review license applications, in accordance with the licensing policy described in paragraph (d) of this section, for commodities, technical data, or software not described in paragraph (a) of this section that:

(1) Require a validated license for reasons other than short supply; and
 (2) Could be destined for the design, development, production, or use of missiles, or for a facility engaged in such activities.

(c) *Additional validated license requirements based on end-uses related to the design, development, production, or use of missiles.* (1) In addition to the validated license requirements described in paragraph (a) and paragraph (b) of this section, a validated license is required to export any commodity, software, or technical data (excluding technical data exportable under the provisions of General License GTDA and commodities identified in ECCN 7399I or 7999I), when the exporter knows that the commodities, software, or technical data:

(i) Are destined for any facility or project listed in Supplement No. 7 to part 778; or

(ii) Will be used in the design, development, production or use of missiles in or by a country where a facility or project listed in Supplement No. 7 to part 778 is located.

(2) The Office of Export Licensing may inform the exporter, either individually or through amendment to these regulations, that an individual validated license is required because there is an unacceptable risk of use in or diversion to such activities, anywhere in the world. However, the absence of any such notification does not excuse the exporter from compliance with the validated license requirements of paragraph (c)(1) of this section. Those facilities, projects, companies, or government entities currently identified are listed in Supplement No. 7 to part 778.

(d) *Licensing policy.* (1) Unless the criteria stated in paragraphs (d)(3), (d)(4) or (d)(5) of this section are met, applications to export the commodities will be considered on a case-by-case basis to determine whether the export would make a material contribution to the proliferation of missiles. When an export is deemed to make such a contribution, the license will be denied.

(2) The following factors are among those that will be considered to determine what action should be taken on individual applications:

(i) The specific nature of the end-user;

(ii) The significance of the export in terms of its contribution to the design, development, production, or use of missile;

(iii) The capabilities and objectives of the missile and space programs of the recipient country;

(iv) The non-proliferation credentials of the importing country; and

(v) The types of assurances or guarantees against design, development production or use, of missiles delivery purposes that are given in a particular case.

(3) Consistent with section 6(m) of the EAA, the following contract sanctuary data have been established:

(i) License applications involving contracts for batch mixers specified in ECCN 4118B that were entered into prior to January 19, 1990, will be considered on a case-by-case basis.

(ii) License applications for commodities, technical data, or software described only in paragraph (b) or (c) of this section that involve a contract entered into prior to March 7, 1991, will be considered on a case-by-case basis.

(iii) Applicants who wish a pre-existing contract to be considered in reviewing their license applications must submit documentation sufficient to establish the existence of a contract.

(e) Commodities and technical data described in paragraph (a) of this section are not eligible for special licenses.

§ 778.3 Chemical precursors and biological agents, and associated equipment and technical data.

(a) *Validated license requirements.* The following controls are maintained in support of the U.S. foreign policy of opposing the proliferation and illegal use of chemical and biological weapons:

(1) Chemicals identified in ECCN 4798B require a validated license for export from the United States to all destinations except Australia, Austria, Belgium, Canada, Denmark, the Federal Republic of Germany, France, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Switzerland, Turkey, and the United Kingdom.

(2) Equipment identified in ECCNs 5129F, 5132F, 5133F, 5134F, 5135F, 5140F, and 5141F in the Commodity Control List, which can be used in the production of chemical warfare agents, precursors and chemical warfare agents, requires a validated license for export from the United States to Country Groups S and Z and regions and countries listed in Supplement No. 5 to Part 778.

(3) Viruses and viroids identified in ECCN 4997B and bacteria, fungi, and protozoa identified in ECCN 4998B require a validated license to all destinations except Canada.

(4) Equipment and materials identified Regional Director, ECCNs 5185F, 5187F, 5170F, 5797F, and 5997F, which can be used in the production of biological agents, require a validated license for

export from the United States to Country Groups S and Z and regions and countries listed in Supplement No. 5 to part 778.

(5) The following restrictions apply to use of General License CTDR:

(i) General License CTDR is not available for technical data for the production of chemical precursors described in paragraph (a)(1) of this section, except to Australia, Austria, Belgium, Canada, Denmark, the Federal Republic of Germany, France, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Switzerland, Turkey, and the United Kingdom:

(ii) General License CTDR is not available for the export of technical data for the production of commodities described in paragraphs (a)(2) and (a)(4), of this section to regions and countries listed in Supplement No. 5 to Part 778;

(iii) General License CTDR is not available for the export of technical data for the production of commodities described in paragraph (a)(3) of this section;

(iv) (A) General License CTDR is not available for technical data for facilities designed or intended to produce chemical weapons precursors controlled by ECCN 4798B on the CCL, involving the following:

- (1) Overall plant design;
- (2) Design, specification, or procurement of equipment;
- (3) Supervision of construction, installation, or operation of complete plant or components thereof;
- (4) Training of personnel;
- (5) Consultation on specific problems involving such facilities.

(B) This prohibition on use of General License CTDR does not apply to exports to Australia, Austria, Belgium, Canada, Denmark, the Federal Republic of Germany, France, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Switzerland, Turkey, and the United Kingdom;

(v) General License CTDR is available only to Australia, Austria, Belgium, Canada, Denmark, the Federal Republic of Germany, France, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Switzerland, Turkey, and the United Kingdom, for software for process control that is specifically configured to control or initiate the production of chemical weapons precursors controlled by ECCN 4798B.

(b) *Controls on other commodities, technical data, and software.* BXA will

review license applications, in accordance with the licensing policy described in paragraph (d) of this section, for commodities, technical data, or software not described in paragraph (a) of the section that:

- (1) Require a validated license for reasons other than short supply;
- (2) Are destined to a country other than those listed in paragraph (a)(1) of this section; and
- (3) Could be destined for the design, development, production, stockpiling, or use of chemical or biological weapons, or for a facility engaged in such activities.

(c) *Additional validated license requirements based on end-uses related to the design, development, production, stockpiling, or use of chemical or biological weapons.* (1) In addition to the validated license requirements described in paragraph (a) and paragraph (b) of this section, a validated license is required to export any commodity, software, or technical data excluding technical data exportable under the provisions of General License GTDA and commodities identified in ECCN 7599I or 7999I, when the exporter knows that the commodities, software, or technical data:

- (i) Are destined for any facility listed in Supplement No. 6 to part 778; or
- (ii) Will be used in the design, development, production, stockpiling, or use of chemical or biological weapons in or by a region or country listed in Supplement No. 3 to part 778.

(2) The Office of Export Licensing may inform the exporter, either individually or through amendment to these regulations, that an individual validated license is required because there is an unacceptable risk of use in or diversion to such activities, anywhere in the world. However, the absence of any such notification does not excuse the exporter from compliance with the validated license requirements of paragraph (c)(1) of this section. Those facilities currently identified are listed in Supplement No. 6 to part 778.

(d) *Licensing policy.* (1) Unless the criteria stated in paragraph (d)(3) of this section are met, applications to export the commodities and technical data subject to this policy will be considered on a case-by-case basis to determine whether the export would make a material contribution to the design, development, production, stockpiling, or use of chemical or biological weapons. When an export is deemed to make such a contribution, the license will be denied.

(2) The following factors are among those that will be considered to

determine what action should be taken on individual applications:

- (i) The specific nature of the end-use;
- (ii) The significance of the export in terms of its contribution to the design, development, production, stockpiling, or use of chemical or biological weapons;
- (iii) The non-proliferation credentials of the importing country; and
- (iv) The types of assurances or guarantees against design, development, production, stockpiling, or use of chemical or biological weapons that are given in a particular case.

(3) *Contract sanctity.* Consistent with section 6(m) of the EAA, the following contract sanctity dates have been established.

(i) The contract sanctity date for exports to Syria of dimethyl methylphosphonate, methyl phosphonyldifluoride, phosphorous oxychloride, thiodiglycol, dimethylamine hydrochloride, dimethylamine, ethylene chlorohydrin (2-chloroethanol), and potassium fluoride is April 28, 1986.

(ii) The contract sanctity date for exports to Iran or Syria of dimethyl phosphite (dimethyl hydrogen phosphite), methyl phosphonyldichloride, 3-quinuclidinol, N,N-diisopropylaminoethane-2-thiol, N,N-diisopropylaminoethyl-2-chloride, 3-hydroxy-1-methylpiperidine, trimethyl phosphite, phosphorous trichloride, and thionyl chloride is July 6, 1987.

(iii) The contract sanctity date for exports to Iran or Syria of items in ECCNs 4997B and 4998B is February 22, 1989.

(iv) The contract sanctity date for exports to Iran of dimethyl methylphosphonate, methylphosphonyl dichloride, methylphosphonyl difluoride, phosphorous oxychloride, and thiodiglycol is February 22, 1989.

(v) The contract sanctity date for exports to Syria of dimethyl methylphosphonate, methylphosphonyl dichloride, and methylphosphonyl difluoride is February 22, 1989.

(vi) The contract sanctity date for exports to Iran, Libya, or Syria of potassium hydrogen fluoride, ammonium hydrogen fluoride, sodium fluoride, sodium bifluoride, phosphorus pentasulfide, sodium cyanide, triethanolamine, diisopropylamine, sodium sulfide, and N,N-diethylethanolamine is December 12, 1989.

(vii) The contract sanctity date for exports to all destinations (except Iran or Syria) of phosphorous trichloride, trimethyl phosphite, and thionyl chloride is December 12, 1989. For exports to Iran or Syria, paragraph (d)(3)(i) of this section applies.

(viii) The contract sanctity date for exports to all destinations (except Iran, Libya, or Syria) of 2-chloroethanol and triethanolamine is January 13, 1991. For exports of 2-chloroethanol to Syria, paragraph (d)(3)(i) of this section applies. For exports of triethanolamine to Iran, Libya, or Syria, paragraph (d)(3)(v) of this section applies.

(ix) The contract sanctity date for exports to all destinations (except Iran, Libya, or Syria) of chemicals controlled by ECCN 4798B is March 7, 1991, except for applications to export the following chemicals: 2-chloroethanol, dimethyl methylphosphonate, dimethyl phosphite (dimethyl hydrogen phosphite), methylphosphonyl dichloride, methylphosphonyl difluoride, phosphorous oxychloride, phosphorous trichloride, thiodiglycol, thionyl chloride, triethanolamine, and trimethyl phosphite. (See also paragraphs (d)(3)(vi) and (d)(3)(vii) of this section.) For exports to Iran, Libya, or Syria, see paragraphs (d)(3)(i) through (d)(3)(v) of this section.

(x) The contract sanctity date for exports of the following commodities and technical data is March 7, 1991:

(A) Equipment (for producing chemical weapon precursors and chemical warfare agents) described in paragraph (a)(2) of this section;

(B) Equipment and materials (for producing biological agents) described in paragraph (a)(4) of this section;

(C) Technical data described in paragraph (a)(3) of this section; and

(D) Commodities, technical data, or software described in paragraph (c) of this section.

(xi) The contract sanctity date for exports of commodities, technical data, or software described in paragraph (b) of this section is March 7, 1991.

(xii) The contract sanctity date for reexports of chemicals controlled under ECCN 4798B is March 7, 1991, except that the contract sanctity date for reexports of these chemicals to Iran, Libya, or Syria is December 12, 1989.

(xiii) The contract sanctity date for reexports of viruses and viroids identified under ECCN 4997B and bacteria, fungi, and protozoa identified under ECCN 4998B is March 7, 1991.

(4) When preparing a license application for chemicals, applicants shall type the Chemical Abstract Service (C.A.S.) Registry number in Item 9(b) before each chemical name. The C.A.S. numbers are listed with the controlled chemicals in ECCN 4798B under the "List of Chemicals." See Supplement No. 1 to § 788.2 of this subchapter. Interpretation 22 Precursor Chemicals,

for synonyms of controlled chemicals in ECCN 4706B.

11. A new § 778.9 is added to read as follows:

§ 778.9 Activities of U.S. persons.

(a) A validated license or reexport authorization is required for the export, reexport, or transfer of any commodities, software, or technical data, regardless of origin, by a U.S. person (defined below) where that person knows that such commodities, software, or technical data:

(1) Will be used in the design, development, production, or use of missiles in or by a country where a facility or project listed in Supplement No. 7 to part 778 is located; or

(2) Will be used in the design, development, production, stockpiling, or use of chemical or biological weapons in or by a country listed in Supplement No. 5 to part 778, or are destined for a facility listed in Supplement No. 6 to part 778.

(b) No U.S. person shall, without a validated license or other authorization from the Office of Export Licensing:

(1) Perform any contract, service, or employment that the U.S. person knows will assist in the design, development, production, or use of missiles in or by a country where a facility or project listed in Supplement No. 7 to part 778 is located;

(2) Perform any contract, service, or employment that the U.S. person knows will assist in the design, development, production, stockpiling, or use of chemical or biological weapons in or by a country listed in Supplement No. 5 to part 778, or is destined for a facility listed in Supplement No. 6 to part 778.

(c) No U.S. person shall, without a validated license or other authorization from the Office of Export Licensing, participate in the design, construction,

or export of a whole plant to make chemical weapons precursors identified in ECCN 4706B, in countries other than Australia, Austria, Belgium, Canada, Denmark, the Federal Republic of Germany, France, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Switzerland, Turkey, and the United Kingdom.

(d) No U.S. person shall, without a validated license or other authorization from the Office of Export Licensing, knowingly support an export, reexport, or transfer that does not have a validated license or other authorization as required by this section. Support means any action, including financing, transportation, and freight forwarding, by which a person facilitates an export, reexport, or transfer without being the actual exporter or reexporter.

(e) The Office of Export Licensing may inform U.S. persons, either individually or through amendment to these regulations, that an individual validated license is required because an activity could involve the types of participation and support described in paragraphs (a) through (d) of this section, anywhere in the world.

(f) For purposes of this section, the term "U.S. person" includes:

(1) Any individual who is a citizen or permanent resident alien of the United States;

(2) Any juridical person organized under the laws of the United States, or any jurisdiction within the United States including foreign branches; and

(3) Any person in the United States.

(g) It shall be the policy of the Department of Commerce to permit no activity covered by this section that is material in terms of its contribution to the design, development, production, stockpiling, or use of chemical or biological weapons, or of missiles.

(h) See §§ 778.2 and 778.1(a) of this subchapter for definitions of other terms used in this section.

12. A new section 778.10 is added to read as follows:

§ 778.10 Effect of other provisions.

If, at the time of export, a validated license is also required under other provisions of the Export Administration Regulations (18 CFR parts 730-799), the application shall be submitted in accordance with the provisions of part 778 as well as other applicable provisions. The requirements of part 778 are applicable in addition to, rather than in lieu of, any other validated license requirement set forth in the Export Administration Regulations, insofar as consistent with the provisions of part 778, all of the other provisions shall apply equally to applications for licenses and licenses issued under these special provisions.

13. Part 778 is amended by adding a new Supplement No. 8 to read as follows:

Supplement No. 8—Chemical and Biological Agent Facilities

[TEXT TO BE FURNISHED IN FINAL RULE]

14. Part 778 is amended by adding a new Supplement No. 7 to read as follows:

Supplement No. 7—Missile Technology Projects and Facilities

[TEXT TO BE FURNISHED IN FINAL RULE]

Dated: March 7, 1991.

James M. LeMay, Jr.,
Deputy Assistant Secretary for Export Administration.

(FR Doc. 91-4881 Filed 3-8-91; 4:27 pm)
BILLING CODE 2510-01-8

for synonyms of controlled chemicals in ECCN 4798B.

11. A new § 778.9 is added to read as follows:

§ 778.9 Activities of U.S. persons.

(A) A validated license or reexport authorization is required for the export, reexport, or transfer of any commodities, software, or technical data, regardless of origin, by a U.S. person (defined below) where that person knows that such commodities, software, or technical data:

(1) Will be used in the design, development, production, or use of missiles in or by a country where a facility or project listed in Supplement No. 7 to part 778 is located; or

(2) Will be used in the design, development, production, stockpiling, or use of chemical or biological weapons in or by a country listed in Supplement No. 5 to part 778, or are destined for a facility listed in Supplement No. 8 to part 778.

(b) No U.S. person shall, without a validated license or other authorization from the Office of Export Licensing:

(1) Perform any contract, service, or employment that the U.S. person knows will assist in the design, development, production, or use of missiles in or by a country where a facility or project listed in Supplement No. 7 to part 778 is located;

(2) Perform any contract, service, or employment that the U.S. person knows will assist in the design, development, production, stockpiling, or use of chemical or biological weapons in or by a country listed in Supplement No. 5 to part 778, or is destined for a facility listed in Supplement No. 8 to part 778.

(c) No U.S. person shall, without a validated license or other authorization from the Office of Export Licensing, participate in the design, construction,

or export of a whole plant to make chemical weapons precursors identified in ECCN 4798B, in countries other than Australia, Austria, Belgium, Canada, Denmark, the Federal Republic of Germany, France, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Switzerland, Turkey, and the United Kingdom.

(d) No U.S. person shall, without a validated license or other authorization from the Office of Export Licensing, knowingly support an export, reexport, or transfer that does not have a validated license or other authorization as required by this section. Support means any action, including financing, transportation, and freight forwarding, by which a person facilitates an export, reexport, or transfer without being the actual exporter or reexporter.

(e) The Office of Export Licensing may inform U.S. persons, either individually or through amendment to these regulations, that an individual validated license is required because an activity could involve the types of participation and support described in paragraphs (e) through (d) of this section, anywhere in the world.

(f) For purposes of this section, the term "U.S. person" includes:

(1) Any individual who is a citizen or permanent resident alien of the United States;

(2) Any juridical person organized under the laws of the United States, or any jurisdiction within the United States including foreign branches; and

(3) Any person in the United States.

(g) It shall be the policy of the Department of Commerce to permit no activity covered by this section that is material in terms of its contribution to the design, development, production, stockpiling, or use of chemical or biological weapons, or of missiles.

(h) See §§ 770.2 and 779.1(a) of this subchapter for definitions of other terms used in this section.

12. A new section 778.10 is added to read as follows:

§ 778.10 Effect of other provisions.

If, at the time of export, a validated license is also required under other provisions of the Export Administration Regulations (15 CFR parts 730-799), the application shall be submitted in accordance with the provisions of part 778 as well as other applicable provisions. The requirements of part 778 are applicable in addition to, rather than in lieu of, any other validated license requirement set forth in the Export Administration Regulations. Insofar as consistent with the provisions of part 778, all of the other provisions shall apply equally to applications for licenses and licenses issued under these special provisions.

13. Part 778 is amended by adding a new Supplement No. 6 to read as follows:

Supplement No. 6—Chemical and Biological Agent Facilities

[TEXT TO BE FURNISHED IN FINAL RULE]

14. Part 778 is amended by adding a new Supplement No. 7 to read as follows:

Supplement No. 7—Missile Technology Projects and Facilities

[TEXT TO BE FURNISHED IN FINAL RULE]

Dated: March 7, 1991.

James M. LeMunyon,
Deputy Assistant Secretary for Export Administration.

[FR Doc. 91-5861 Filed 3-8-91; 4:27 pm]
GALING CODE 2810-07-02

COMPUTER—CONSIGNEE DESTINATIONS (LIST A)

See the first footnote to entry number 1565 in Supp. No. 1 to Part 773 for computers that may be exported to countries listed below.

Australia	Luxembourg
Belgium	Netherlands
Denmark	New Zealand
France	Norway
Germany, Federal Republic of	Portugal
Greece	Spain
Iceland	Turkey
Italy (includes San Marino and Vatican City)	United Kingdom
Japan	

A.H.D

COMPUTER—CONSIGNEE DESTINATIONS (LIST B)

See the first footnote to entry number 1565 in Supp. No. 1 to Part 773 for computers that may be exported to countries listed below.

Austria	Guinea-Bissau	Panama
The Bahamas	Haiti	Paraguay
Barbados	Honduras	Peru
Benin	Hong Kong	Philippines
Bolivia	Indonesia	Rwanda
Botswana	Ireland	Senegal
Burkina Faso	Ivory Coast	Sierra Leone
Burundi	Jamaica	Singapore
Cameroon	Jordan	Somalia
Central African Republic	Kenya	Sri Lanka
Chad	Korea, Republic of	Sudan
Colombia	Lebanon	Suriname
Congo	Lesotho	Swaziland
Costa Rica	Liberia	Sweden
Cyprus	Liechtenstein	Switzerland
Dominican Republic	Madagascar	Thailand
Ecuador	Malaysia	Togoiland
El Salvador	Maldives	Tongo
Ethiopia	Mali	Trinidad and Tobago
Fiji	Malta	Tunisia
Finland	Mauritius	Uruguay
Gabon	Mexico	Venezuela
The Gambia	Morocco	Western Samoa
Ghana	Nepal	Yugoslavia
Grenada	Nicaragua	Zaire
Guatemala	Nigeria	

Att. D.

Eligible _____
 Contract Specialist Date _____
 Ineligible _____
 MWOB Specialist Date _____
 FR Doc. 91-1901 Filed 8-14-91; 8:43 am
 BILLING CODE 4710-01-8

Issued in Washington, DC, on August 8, 1991.
 M.C. Beard,
 Director, Aircraft Certification Service.
 [FR Doc. 91-19440 Filed 8-14-91; 8:43 am]
 BILLING CODE 4710-13-8

DEPARTMENT OF COMMERCE

Bureau of Export Administration

15 CFR Parts 771, 773, 778, 779, and 799

(Doctet No. 910318-1189)

Importation and Expansion of Foreign Policy Controls

AGENCY: Bureau of Export Administration, Commerce.
 ACTION: Interim rule with request for public comment.

SUMMARY: The Department of Commerce is amending the Export Administration Regulations (EAR) in support of U.S. non-proliferation policies. This interim rule imposes foreign policy controls on certain exports by providing authority to deny items that already require a validated license under the EAR, for any reason other than short supply, where the export could be destined for the design, development, production, or use of missiles or chemical or biological weapons, or for a facility engaged in such activities.

This rule also imposes foreign policy controls on exports to specified destinations when the exporter knows that the commodities, technical data, or software will be used in the design, development, production, or use of missiles or chemical or biological weapons, or are destined for such activities, or to any destination when the exporter is informed by the Bureau of Export Administration (BXA), that a validated license is required due to an unacceptable risk of weapons-related use.

In addition, this rule imposes foreign policy controls on exports to specified destinations when a U.S. person knows that the commodities, technical data, or software will be used in the design, development, production, or use of missiles or chemical or biological weapons, or are destined for such activities, or to any destination when the U.S. person is informed by BXA that a validated license is required due to an unacceptable risk of weapons-related use. Neither may a U.S. person, without a validated license, perform any contract, service, or employment knowing that it assists such activities.

The restrictions that apply when an exporter as U.S. person "knows" are tied to certain listed destinations. For chemical or biological weapons, such destinations already are listed in Supplement No. 5 to part 778. This rule adds Supplement No. 6 to part 778, which will list missile projects when the list is made final. Accordingly, the provisions of sections 771.2(c)(13)(i), 778.7(c)(1), and 778.9(a)(1) and (b)(1) will not be applicable until Supplement No. 6 is revised to include such projects.

This rule also imposes foreign policy controls on participation and support by U.S. persons in the design, development, production, or use of missiles or of chemical or biological weapons.

This rule restricts participation by U.S. persons in construction of whole plants to produce chemical weapon precursors in certain countries.

This rule also makes changes in the organization of regulations relating to weapons proliferation, grouping them in newly designated part 778, Proliferation Controls.

DATES: This rule is effective August 15, 1991. Comments must be received by September 18, 1991.

ADDRESSES: Written comments (six copies) should be sent to: Patricia Muldoon, Office of Technology and Policy Analysis, Bureau of Export Administration, Department of Commerce, Washington, DC 20230.

FOR FURTHER INFORMATION CONTACT: Kathryn Sullivan, Bureau of Export Administration, Telephone: (202) 377-8793.

SUPPLEMENTARY INFORMATION:

Background

On March 13, 1991, (56 FR 10765) the Bureau of Export Administration published a proposed rule in the Federal Register that expanded foreign policy controls in several ways in support of U.S. nonproliferation policies. The changes proposed by that rule addressed some of the measures called for in President Bush's December 13, 1990, decision on the Enhanced Proliferation Control Initiative (EPCI) and included in Executive Order 12735 of November 16, 1990, on chemical and biological weapons proliferation. This interim rule implements many of the changes proposed in the March 13, 1991, proposed rule. These changes have been made after consultation with the Department of State and other agencies, and after full consideration of the more than seventy-five public comments received on the proposed rule.

This interim rule expands foreign policy controls in several ways in

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

(Doctet No. 91-ANE-21; Amendment 39-7079)

Airworthiness Directives; E.I. DuPont de Nemours & Co. TSO-C118, Crewmember Protective Breathing Equipment Model 4566M37B-042N

AGENCY: Federal Aviation Administration (FAA), DOT.
 ACTION: Final rule, correction to the final rule.

SUMMARY: This document corrects a clerical error in an Airworthiness Directive (AD) which was published in the Federal Register on Friday, July 28, 1991 (56 FR 34146). This correction adds a compliance time which should have appeared in the first paragraph of the AD. The AD in all other respects remains unchanged.

EFFECTIVE DATE: August 15, 1991.

FOR FURTHER INFORMATION CONTACT: Mr. D. Kramer, (518) 791-8427.

SUPPLEMENTARY INFORMATION: A Final rule Airworthiness Directive (AD), applicable to E. I. DuPont de Nemours & Co. TSO-C118 Crewmember Protective Breathing Equipment (CPBE) Model 4566M37B-042N, was published in the Federal Register on Friday, July 28, 1991, (56 FR 34146). The following correction is needed.

PART 39—(CORRECTED)

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 1354(a), 1421 and 1423, 49 U.S.C. 108(g) (Revised Pub. L. 97-446, January 12, 1983); and 14 CFR 11.29.

§ 39.13 [Corrected]

2. Section 39.13 is corrected as follows:

On page 34147 in the first column in section 39.13, Airworthiness Directive 91-ANE-21, in the first full paragraph after the compliance paragraph, add the following: "within 45 days after the effective date of this AD".

support of U.S. nonproliferation policies. The rule provides EXA with authority to deny a license for exports of items that already require a validated license under the EAR, for any reason other than short supply, where the export could be destined for the design, development, production, or use of missiles or chemical or biological weapons, or for a facility engaged in such activities.

The interim rule also imposes foreign policy controls on exports to specified regions, countries, and destinations when the exporter knows the export will be used in the design, development, production, stockpiling, or use of missiles or of chemical or biological weapons, or is destined for a listed project. Supplement No. 5 to part 768 already lists destinations of concern for chemical and biological reasons. This rule adds Supplement No. 6 to part 778 of the EAR, which will list missile projects when such list is made final.

The rules does not provide a definition of the term "know". The background information section of the proposed rule contained a definition of "know", but only two public comments on the rule supported that definition. Ten commenters found the proposed definition too vague and preferred leaving the term undefined. This interim rule adopts that approach and does not contain a definition of "know". At this time, the Department believes that existing case law and judicial interpretation provide adequate guidance to exporters.

Six commenters supported applying the same "know" standard regardless of whether items are subject to nuclear nonproliferation controls or to foreign policy controls on missile systems or chemical and biological weapons. The standard in the nuclear controls is not being changed at this time.

In addition, this interim rule amends the EAR to make clear that EXA may inform an exporter at any time that a validated license is required for a specific export or reexport transaction or for exports or reexports to a specific end-user or end-use because of an unacceptable risk that such shipments will be used in sensitive nuclear activities, in the design, development, production, stockpiling, or use of chemical or biological weapons, or in the design, development, production or use of missiles. An exporter or reexporter may be individually informed by EXA, or notice may be published in the Federal Register.

Eight commenters supported the addition of supplements to identify specific facilities or entities involved in missile technology or chemical and

biological weapons activities. At this time, such lists are still under consideration.

Like the proposed rule, this interim rule substitutes the term "missiles" for the phrase "missiles capable of delivering nuclear weapons". The definition of such missiles, as contained in the EAR, is not affected by this change.

In addition, this interim rule adds a new provision of the EAR to restrict participation by U.S. persons in missile, chemical weapons, or biological weapons development. No U.S. person may knowingly export or reexport to specified destinations commodities, software, or technical data, regardless of origin, or use in the design, development, production, stockpiling, or use of chemical or biological weapons, or of missiles. Nor may a U.S. person, without a validated license, perform any contract, service, or employment knowing that it assists such activities. When a U.S. person has been informed by EXA, these prohibitions apply to any destination. In addition, the rule restricts participation and support by U.S. persons in the design, construction, or export of whole plants to make precursors for chemical weapons. This prohibition also extends to support of any such transactions, through financing, freight forwarding, or other comparable activities. The term "U.S. person" is defined for the purposes of these provisions to include foreign branches of companies organized in the United States.

Five commenters, addressing the controls on activities of U.S. persons, recommended that these controls should not apply to branches of U.S. companies located in a foreign country. Another commenter suggested revising the U.S. person requirement to exempt transactions involving foreign-made products. Two commenters felt that controls on U.S. persons should be dropped entirely. While the Department has considered these comments, this interim rule makes no changes to the provisions contained in the proposed rule.

The comments received on the proposed rule contained a number of suggestions about how to minimize shipping delays and other problems that could result from the expansion of validated licensing requirements. Six commenters supported the creation of a de minimis exemption from validated licensing requirements for certain activities, such as research and development, quality checks, and small quantities of chemical precursors needed for testing. This suggestion is in line with a public comment on an

interim rule that was published on December 20, 1989 (54 FR 52917). That commenters suggested that EXA establish a General License GLV dollar value limit for chemicals controlled under ECCN 4968B. The commenter noted that it is often necessary to ship chemical samples of short notice to prospective foreign customers and that these chemicals are of no practical use for chemical weapons production unless they are obtained in large quantities. EXA, in consultation with the Chemical Manufacturer's Association, determined that a volume limit on samples would be more appropriate. This interim rule adopts the latter approach and revises ECCN 4968B to authorize exports of sample shipments not to exceed one 55 gallon container (208 liters) per chemical to the same consignee in one calendar year. These shipments are authorized under General License G-DEST (§ 771.3 of the EAR) to all destinations except Iran, Iraq, Syria, and Country Groups 8 and Z, unless the exporter knows or is informed that the export will be used in the design, development, production, stockpiling, or use of chemical or biological weapons.

Two commenters proposed that an additional exemption from validated licensing requirements be created for certain mixtures and compounds containing precursor chemicals (regardless of the percentage of controlled content) that are determined not to be of proliferation concern. This interim rule permits exports under General License G-DEST of chemical compounds created using controlled precursors, provided that the compounds, themselves, are not controlled precursors. However, this rule does not permit exports under General License G-DEST of chemical mixtures that contain controlled precursors except when the precursor chemical is merely an impurity that was not intentionally added.

Nineteen commenters recommended that EXA establish a new general license or special license that would permit exports to affiliates or licensees of U.S. companies. This suggestion is being addressed in a separate rule that creates a special licensing procedure for exports of chemicals and chemical and biological equipment to subsidiaries or other affiliates under the effective control of a U.S. exporter.

Twenty-three commenters criticized the fact that the proposed rule contained unilateral export controls. They felt that the costs and delays of the licensing process would hurt the competitiveness of U.S. companies vis-a-vis foreign producers and that the unilateral

controls would prove ineffective due to the widespread foreign availability of the controlled items. Fourteen commenters argued that foreign availability makes the imposition of multilateral controls the only realistic approach. Three of these commenters suggested that a deadline be established for the creation of multilateral controls and that failure to meet the deadline should result in the termination of unilateral controls. The Department is sensitive to the arguments against unilateral controls and intends to reevaluate these controls annually. Among the factors that will be considered in deciding whether to maintain these controls will be whether comparable controls have been adopted multilaterally.

The proposed rule indicated that while contract sanctity was being provided in the proposal consistent with section 6(m) of the Export Administration Act of 1979, as amended (EAA), serious consideration was being given to eliminating these contract sanctity provisions when the interim rule was published. Twenty commenters expressed strong support for retaining contract sanctity provisions, citing the need for U.S. companies to be viewed as reliable suppliers. Under this interim rule, contract sanctity as a principle is maintained. However, cases may arise in which contract sanctity is inappropriate in light of the serious concerns raised by missiles and chemical and biological weapons. Examples include cases in which an affected contract relates directly, immediately, and significantly to actual or imminent activities involving missile systems or chemical and biological weapons. Accordingly, there will not be a presumption of approval for license applications involving pre-existing contracts. Rather, the existence of a pre-existing contract will be treated as a factor to be considered in reviewing license applications.

Consistent with the prohibitions on trade with Iraq contained in the Executive Orders issued on August 2 and 8, 1990, exporters should obtain guidance from the U.S. Department of Treasury, Office of Foreign Assets Control concerning any export or reexport to Iraq.

On March 7, 1991, the Department submitted a report notifying the Congress of its intent to impose these controls.

Rulemaking Requirements and Invitation to Comment

1. This rule is consistent with Executive Order 12291 and 12861.

2. This rule involves a collection of information subject to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). Affected OMB controlled collection actions include 0694-0005, 0694-0007, and 0694-0020.

3. This rule does not contain policies with Federalism implications sufficient to warrant preparation of a Federalism assessment under Executive Order 12612.

4. Because a notice of proposed rulemaking and an opportunity for public comment are not required to be given for this rule by section 553 of the Administrative Procedure Act (5 U.S.C. 553), or by any other law, under sections 603(a) and 604(a) of the Regulatory Flexibility Act (5 U.S.C. 603(a) and 604(a)) no initial or final Regulatory Flexibility Analysis has to be or will be prepared.

5. The provisions of the Administrative Procedure Act, 5 U.S.C., requiring notice of proposed rulemaking, the opportunity for public participation, and a delay in effective date, are inapplicable because this regulation involves a foreign and military affairs function of the United States. The Secretary of Commerce has submitted a report to Congress on the need for these controls. No other law requires that a notice of proposed rulemaking and an opportunity for public comment be given for this rule.

However, because of the importance of the issues raised by these regulations, this rule is being issued as an interim rule and comments will be considered in the development of final regulations. Accordingly, the Department encourages interested persons who wish to comment to do so at the earliest possible time to permit the fullest consideration of their views.

The period for submission of comments will close September 16, 1991. The Department will consider all comments received before the close of the comment period in developing final regulations. Comments received after the end of the comment period will be considered if possible, but their consideration cannot be assured. The Department will not accept public comments accompanied by a request that part or all of the material be treated confidentially because of its business proprietary nature or for any other reason. The Department will return such comments and will not consider them in the development of final regulations. All public comments on these regulations will be a matter of public record and will be available for public inspection and copying. In the interest of accuracy and completeness, the Department

requests comments in written form. Oral comments must be followed by written memoranda, which will also be a matter of public record and will be available for public review and copying. Communications from agencies of the United States Government or foreign governments will not be made available for public inspection.

The public record concerning these regulations will be maintained in the Bureau of Export Administration Freedom of Information Records Inspection Facility, room 4318, Department of Commerce, 14th Street and Pennsylvania Avenue, NW., Washington, DC 20230. Records in this facility, including written public comments and memoranda summarizing the substance of oral communications, may be inspected and copied in accordance with regulations published in part 4 of title 18 of the Code of Federal Regulations. Information about the inspection and copying of records at the facility may be obtained from Margaret Cornsjo, Bureau of Export Administration Freedom of Information Officer, at the above address or by calling (202) 377-2391.

List of Subjects

15 CFR Parts 771, 773, 778, and 790

Exports, Reporting and recordkeeping requirements.

15 CFR Part 778

Nuclear energy, Reporting and recordkeeping requirements.

15 CFR Part 779

Computer technology, Exports, Reporting and recordkeeping requirements, Science and technology.

Accordingly, parts 771, 773, 778, 778, 779, and 790 of the Export Administration Regulations (15 CFR parts 730-790) are amended as follows:

1. The authority citations for parts 771 and 779 are revised to read as follows:

Authority: Pub. L. 90-72, 93 Stat. 505 (50 U.S.C. app. 2407, *et seq.*), as amended; Pub. L. 95-223, 91 Stat. 1528 (50 U.S.C. 1701, *et seq.*); Executive Order 12224 of May 2, 1980 (48 FR 22783, May 6, 1980); Executive Order 12730 of September 30, 1990 (58 FR 48372, October 2, 1990); Executive Order 12728 of November 18, 1990 (55 FR 48567, November 20, 1990).

2. The authority citation for parts 773, 778, and 790 is amended to read as follows:

Authority: Pub. L. 90-72, 93 Stat. 505 (50 U.S.C. app. 2401, *et seq.*), as amended; Pub. L. 95-223, of December 28, 1977 (50 U.S.C. 1701, *et seq.*); E.O. 12214 of May 2, 1980 (45 FR 22783, May 6, 1980); E.O. 12730 of September 30, 1990 (58 FR 48372, October 2, 1990); E.O.

12735 of November 16, 1990 (55 FR 48567, November 20, 1990).

3. The authority citation for part 778 is revised to read as follows:

Authority: Pub. L. 96-72, 93 Stat. 503 (50 U.S.C. app. 2401 *et seq.*), as amended; Pub. L. 101-223, 91 Stat. 1828 (50 U.S.C. 1701 *et seq.*); Pub. L. 93-242, 92 Stat. 141 (42 U.S.C. 2139(a)); Executive Order 12214 of May 2, 1980 (45 FR 2778, May 6, 1980); Executive Order 12730 of September 30, 1990 (55 FR 40373, October 2, 1990); and Executive Order 12735 of November 16, 1990 (55 FR 48567, November 20, 1990).

PART 777—(AMENDED)

4. Section 771.2 is amended by revising paragraph (c) introductory text by adding a new paragraph (c)(13); and by adding a new paragraph (c)(14) to read as follows:

§ 771.2 General provisions.

(c) *Prohibited shipments.* No general license, except General License GTDA (and G-DEST as it applies to ECCN 75991 and 79000), may be used to effect an export to any destination if:

- (13) The exporter either:
 - (i) Knows that the commodity, software or technical data:
 - (A) Are destined for any project listed in Supplement No. 6 to part 778 of this subchapter; or
 - (B) Will be used in the design, development, production, or use of missiles in or by a country where a project listed in Supplement No. 6 to part 778 of this subchapter is located; or
 - (ii) Is informed by BXA that a validated license is required for export to a consignee, wherever located, because the export may apply to the design, development, production, or use of missiles;
 - (14) The exporter either:
 - (i) Knows that the commodity, software or technical data will be used in the design, development, production, stockpiling, or use of chemical or biological weapons in or by a country listed in Supplement No. 5 to part 778 of this subchapter; or
 - (ii) Is informed by BXA that a validated license is required for export to a consignee, wherever located, because the export may apply to the design, development, production, stockpiling, or use of chemical or biological weapons.

PART 773—(AMENDED)

§ 773.2 (Amended)

5. Section 773.2, paragraph (b)(6) is amended by revising the phrase “§ 776.18” to read “§ 778.7(a)(1)”.

§ 773.3 (Amended)

6. Section 773.3, paragraph (b)(1)(iv) is amended by revising the phrase “§ 776.18” to read “§ 778.7(a)(1)”.

§ 773.7 (Amended)

7. Section 773.7, paragraph (b)(5) is amended by revising the phrase “§ 776.18” to read “§ 778.7(a)(1)”.

PART 776—(AMENDED)

8. Part 776 is amended by removing sections 776.18 and 776.19.

9. The heading to part 776 is revised to read as follows:

PART 778—PROLIFERATION CONTROLS

10. Section 778.1 is revised to read as follows:

§ 778.1 Purpose.

(a) *Scope.* This part defines the types of transactions that are governed by the U.S. policy concerning the non-proliferation of chemical and biological weapons, nuclear weapons or explosive devices, missile systems and the U.S. maritime nuclear propulsion policy. The controls implement policies set out in sections 3(2)(A) and (B) of the Export Administration Act (50 U.S.C. app. 2401-2420) and section 306(c) of the Nuclear Non-Proliferation Act of 1978 (22 U.S.C. 3201-3282; 42 U.S.C. 2011-2160(e)), that is:

- (1) To exercise the necessary vigilance from the standpoint of their significance to the national security of the United States;
 - (2) To further significantly the foreign policy of the United States or to fulfill its international responsibilities; and
 - (3) To maintain controls over items because of their potential significance for nuclear explosive purposes.
- (b) *Related legislation.* These controls supplement those exercised by the Nuclear Regulatory Commission and the Department of Energy under the Atomic Energy Act of 1954 (42 U.S.C. 2011-2206), as amended by the Nuclear Non-Proliferation Act of 1978 (22 U.S.C. 3201-3282; 42 U.S.C. 2011-2160(e)) and other statutes, and by the Office of Defense Trade Controls, Department of State, under the Arms Export Control Act of 1976 (22 U.S.C. 2781-2797c). (See § 770.10 of this subchapter.)

§ 778.2 (Amended)

11. In § 778.2, paragraph (a) is amended by removing the last two sentences.

12. Section 778.3 is amended by adding two new sentences at the end of the introductory text to read as follows:

§ 778.3 Additional validated license requirements for exports with certain nuclear end-uses.

When BXA determines that there is an unacceptable risk of use in or diversion to such activities, it may inform the exporter, either individually or through amendment to the regulations in this subchapter, that an individual validated license is required. However, the absence of any such notification does not excuse the exporter from compliance with the validated license requirements of this section.

13. A new § 778.6 is added to read as follows:

§ 778.6 Preparing nuclear-related applications.

An application for a license to export commodities or technical data subject to provision of § 778.2, § 778.3, or § 778.5 shall be prepared and submitted on Form EXA-622P, Application for Export License, in accordance with instructions set forth in §§ 772.5 and 778.5(e) of this subchapter with the following additional instructions:

- (a) *Identification of License Application.* Enter the words “NUCLEAR CONTROLS” in Item 4, “Special Purpose,” of Form EXA-622P.
- (b) *Consignee in country of ultimate destination.* If the consignee in the country of ultimate destination is not the end-user of the commodities give the name and address of the end-user in item 12, “Special End-Use,” or on an attachment to the application, and if known, the specific geographic locations of any installations, establishments, or sites at which the commodities will be used.
- (c) *Commodity description.* (1) If the CCI entry in question is divided into sub-entries, indicate the specific sub-entry that describes the commodity. In addition, specifications or descriptive brochures should be provided when available.
- (2) If applicable, include a description of any specific features of design or specific modifications that make the commodity capable to the uses described in § 778.3.
- (d) *End-use.* (1) A vague or general end-use description will delay review of an application. Applications indicating needs as the end-use sometimes must be

required without action in order to obtain more information.

(2) When submitting an application under § 778.3, fully explain the basis for the knowledge or belief that the commodities are intended for the purpose(s) described therein. Additionally, indicate, if possible, the specific end-use(s) the commodities will have in the designing, developing, fabricating, or testing nuclear weapons or nuclear explosive devices or in the designing, constructing, fabricating, or operating the facilities described in § 778.3.

§ 778.4 Sections 778.7 and 778.8 are revised to read as follows:

§ 778.7 Equipment and related technical data used in the design, development, production, or use of missiles.

(a) *Validated license requirements.* In support of U.S. foreign policy to limit the proliferation of missiles, an individual validated license is required to export certain commodities, software, and technical data related to the design, development, production, or use of such missiles to Country Groups QSTVVWYZ.

(1) *Commodities subject to weapons delivery systems controls.* The commodities that require a validated license because they are subject to foreign policy controls on weapons delivery systems appear within ECCNs 2018A, 2118A, 4118B, 4131B, 4133B, 4302B, 1357A, 1361A, 1362A, 1385A, 1400A, 1485A, 1501A, 4518B, 1531A, 1548A, 1561A, 1564A, 1565A, 1568A, 4568B, 1593A, 1733A, 1748A, and 1763A. Exporters should consult the Reason for Control paragraph in each ECCN to determine the specific items subject to these foreign policy controls.

(2) *Technical data and software subject to weapons delivery systems controls.* Technical data and software that require a validated license because they are subject to foreign policy controls on nuclear weapons delivery systems are listed in paragraph (4) of Supplement No. 6 to part 778 of this subchapter.

(3) *Definition.* The term "missiles" is defined as rocket systems (including ballistic missile systems, space launch vehicles, and sounding rockets) and unmanned air vehicle systems (including cruise missile systems, target drones, and reconnaissance drones) capable of delivering at least 500 kilograms (kg) payload to a range of at least 300 kilometers (km).

(b) *Controls on other commodities, technical data, and software.* BXA will review license applications, in accordance with the licensing policy described in paragraph (d) of this section, for commodities, technical data,

or software not described in paragraph (a) of this section that:

- (1) Require a validated license for reasons other than short supply; and
- (2) Could be designed for the design, development, production, or use of missiles, or for a facility engaged in such activities.

(c) *Additional validated license requirements based on end-uses related to the design, development, production, or use of missiles.* (1) In addition to the validated license requirements described in paragraphs (4) and (b) of this section, a validated license is required to export any commodity, software, or technical data (excluding technical data exportable under the provisions of General License GTDA and commodities identified in ECCN 7598I or 7998I), when the exporter knows that the commodities, software, or technical data:

- (i) Are destined for a project listed in Supplement No. 6 to this part 778; or
- (ii) Will be used in the design, development, production or use of missiles in or by a country where a project listed in Supplement No. 6 to this part 778 is located, whether or not that use involves a listed project.

(2) BXA may inform the exporter, either individually or through amendment to these regulations, that an individual validated license is required because there is an unacceptable risk of use in or diversion to such activities, anywhere in the world. When such notice is provided orally, it will be followed by a written notice within two working days signed by the Deputy Assistant Secretary for Export Administration. However, the absence of any such notification does not excuse the exporter from compliance with the validated license requirements of paragraph (c)(1) of this section. An illustrative list of projects is included in Supplement No. 6 to this part 778. Exporters are deemed to have been informed that an individual validated license is required to export to these projects. Exporters should be aware that the list of projects in Supplement No. 6 to this part 778 is not comprehensive; extra caution should be exercised when making any shipments to a country mentioned in Supplement No. 6 to this part 778.

(d) *Licensing policy.* (1) Applications to export the commodities will be considered on a case-by-case basis to determine whether the export would make a material contribution to the proliferation of missiles. When an export is deemed to make such a contribution, the license will be denied.

(2) The following factors are among those that will be considered to

determine what action should be taken in individual applications:

- (i) The specific nature of the end-use;
- (ii) The significance of the export in terms of its contribution to the design, development, production, or use of missiles;
- (iii) The capabilities and objectives of the missile and space programs of the recipient country;
- (iv) The non-proliferation credentials of the importing country;
- (v) The types of assurances or guarantees against design, development, production or use, of missiles delivery purposes that are given in a particular case; and
- (vi) The existence of a pre-existing contract.

(3) The following contract sanctity dates have been established:

- (i) License applications involving contracts for batch mixers specified in ECCN 4118B that were entered into prior to January 18, 1980, will be considered on a case-by-case basis.
- (ii) License applications subject to paragraph (b) or (c) of this section that involve a contract entered into prior to March 7, 1991, will be considered on a case-by-case basis.
- (iii) Applicants who wish a pre-existing contract to be considered in reviewing their license applications must submit documentation sufficient to establish the existence of a contract.

(e) *Commodities and technical data described in paragraph (a) of this section are not eligible for special licenses.*

§ 778.8 Chemical precursors and biological agents, and associated equipment and technical data.

(a) *Validated license requirements.* The following controls are maintained in support of the U.S. foreign policy of opposing the proliferation and illegal use of chemical and biological weapons:

(1) Chemicals identified in ECCN 4798B require a validated license for export from the United States to all destinations except Australia, Austria, Belgium, Canada, Denmark, the Federal Republic of Germany, France, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Switzerland, Turkey, and the United Kingdom.

(1) A validated license is required for chemical mixtures containing any chemicals identified in 4798B. (Mixtures that contain chemicals controlled under this ECCN are controlled as precursors, except when the precursor chemical is merely an impurity that was not intentionally added or is a normal

ingredient in consumer goods intended for retail sales.)

(ii) A validated license is not required for chemical compounds created with any chemicals identified in 4766B, unless those compounds are also identified in 4766B.

(2) Equipment and materials identified in ECCNs 5126F, 5123F, 5133F, 5134F, 5135F, 5140F, and 5141F, and 5767F in the Commodity Control List, which can be used in the production of chemical weapons precursors or chemical warfare agents, require a validated license for export from the United States to Country Groups S and Z and regions and countries listed in Supplement No. 5 to this part 778.

(3) Viruses and viroids identified in ECCN 4967B and bacteria, fungi, and protozoa identified in ECCN 4968B require a validated license to all destinations except Canada.

(4) Equipment and materials identified in ECCNs 5166F, 5167F, 5170F, and 5967F, which can be used in the production of biological agents, require a validated license for export from the United States to Country Groups S and Z and regions and countries listed in Supplement No. 5 to this part 778.

(5) The following restrictions apply to use of General License GTDR:

(i) General License GTDR is not available for technical data for the production of chemical precursors described in paragraph (a)(1) of this section, except to Australia, Austria, Belgium, Canada, Denmark, the Federal Republic of Germany, France, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Switzerland, Turkey, and the United Kingdom.

(ii) General License GTDR is not available for the export of technical data for the production of commodities described in paragraphs (a)(2) and (a)(4) of this section, to regions and countries listed in Supplement No. 5 to this part 778.

(iii) General License GTDR is not available for the export of technical data for the production of commodities described in paragraph (a)(3) of this section.

(iv)(A) General License GTDR is not available for technical data for facilities designed or intended to produce chemical weapons precursors controlled by ECCN 4766B on the CCL, involving the following:

- (1) Overall plant design;
- (2) Design, specification, or procurement of equipment;
- (3) Supervision of construction, installation, or operation of complete plant or components thereof;

(4) Training of personnel;
- (5) Consultation on specific problems involving such facilities.

(B) This prohibition on use of General License GTDR does not apply to exports to Australia, Austria, Belgium, Canada, Denmark, the Federal Republic of Germany, France, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Switzerland, Turkey, and the United Kingdom.

(v) General License GTDR is available only to Australia, Austria, Belgium, Canada, Denmark, the Federal Republic of Germany, France, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Switzerland, Turkey, and the United Kingdom, for software for process control that is specifically configured to control or initiate the production of chemical weapons precursors controlled by ECCN 4766B.

(b) *Controls on other commodities, technical data, and software.* EKA will review license applications in accordance with the licensing policy described in paragraph (d) of this section, for commodities, technical data, or software not described in paragraph (a) of this section that:

- (1) Require a validated license for reasons other than short supply;
- (2) Are destined to a country other than those listed in paragraph (a)(1) of this section; and
- (3) Could be destined for the design, development, production, stockpiling, or use of chemical or biological weapons, or for a facility engaged in such activities.

(c) *Additional validated license requirements based on end-uses related to the design, development, production, stockpiling, or use of chemical or biological weapons.* (1) In addition to the validated license requirements described in paragraphs (a) and (b) of this section, a validated license is required to export any commodity, software, or technical data (excluding technical data exportable under the provisions of General License GTDR and commodities identified in ECCN 7598I or 7598J), when the exporter knows that the commodities, software, or technical data will be used in the design, development, production, stockpiling, or use of chemical or biological weapons in or by a country listed in Supplement No. 5 to this part 778.

(2) EKA may inform the exporter, either individually or through amendment to the regulations in this subchapter, that an individual validated license is required because there is an unacceptable risk of use in or diversion

to such activities, anywhere in the world. When such notice is provided orally, it will be followed by a written notice within two working days signed by the Deputy Assistant Secretary for Export Administration. However, the absence of any such notification does not excuse the exporter from compliance with the validated license requirements of paragraph (c)(1) of this section.

(c) *Licensing policy.* (1) Applications to export the commodities and technical data subject to this policy will be considered on a case-by-case basis to determine whether the export would make a material contribution to the design, development, production, stockpiling, or use of chemical or biological weapons. When an export is deemed to make such a contribution, the license will be denied.

(2) The following factors are among those that will be considered to determine what action should be taken on individual applications:

- (i) The specific nature of the end-use;
- (ii) The significance of the export in terms of its contribution to the design, development, production, stockpiling, or use of chemical or biological weapons;
- (iii) The non-proliferation credentials of the importing country;
- (iv) The types of assurances or guarantees against design, development, production, stockpiling, or use of chemical or biological weapons that are given in a particular case; and
- (v) The existence of a pre-existing contract.

(3) *Contract sanctity.* The following contract sanctity data have been established:

(i) The contract sanctity data for exports to Syria of dimethyl methylphosphonate, methyl phosphonyldifluoride, phosphorus oxychloride, thiodiglycol, dimethylamine hydrochloride, dimethylamine, ethylene chlorohydrin (2-chloroethanol), and potassium fluoride is April 23, 1988.

(ii) The contract sanctity data for exports to Iran or Syria of dimethyl phosphite (dimethyl hydrogen phosphite), methyl phosphonyldichloride, 3-quinuclidinol, N,N-diisopropylaminoethane-3-thiol, N,N-diisopropylaminoethyl-3-chloride, 2-hydroxy-1-methylpiperidine, trimethyl phosphite, phosphorus trichloride, and thionyl chloride is July 6, 1987.

(iii) The contract sanctity data for exports to Iran or Syria of items in ECCNs 4967B and 4968B is February 22, 1989.

(iv) The contract sanctity data for exports to Iran of dimethyl methylphosphonate, methylphosphonyl

difluoride, phosphorus oxychloride, and thiodiglycol is February 22, 1969.

(v) The contract sanctity date for exports to Iran, Libya, or Syria of potassium hydrogen fluoride, ammonium hydrogen fluoride, sodium fluoride, sodium bifluoride, phosphorus pentasulfide, sodium cyanide, triethanolamine, diisopropylamine, sodium sulfide, and N,N-diethylthanolamine is December 12, 1969.

(vi) The contract sanctity date for exports to all destinations (except Iran or Syria) of phosphorus trichloride, trimethyl phosphite, and thionyl chloride is December 12, 1969. For exports to Iran or Syria, paragraph (d)(3)(i) of this section applies.

(vii) The contract sanctity date for exports to all destinations (except Iran, Libya, or Syria) of 2-chloroethanol and triethanolamine is January 15, 1991. For exports of 2-chloroethanol to Syria, paragraph (d)(3)(i) of this section applies. For exports of triethanolamine to Iran, Libya, or Syria, paragraph (d)(3)(vi) of this section applies.

(viii) The contract sanctity date for exports to all destinations (except Iran, Libya, or Syria) of chemicals controlled by ECCN 4798B is March 7, 1991, except for applications to export the following chemicals: 2-chloroethanol, dimethyl methylphosphonate, dimethyl phosphite (dimethyl hydrogen phosphite), methylphosphonyl dichloride, methylphosphonyl difluoride, phosphorus oxychloride, phosphorous trichloride, thiodiglycol, thionyl chloride, triethanolamine, and trimethyl phosphite. (See also paragraphs (d)(3)(vi) and (d)(3)(vii) of this section.) For exports to Iran, Libya, or Syria, see paragraphs (d)(3)(i) through (d)(3)(vi) of this section.

(ix) The contract sanctity date for exports of the following commodities and technical data is March 7, 1991:

(A) Equipment (for producing chemical weapon precursors and chemical warfare agents) described in paragraph (a)(2) of this section;

(B) Equipment and materials (for producing biological agents) described in paragraph (a)(4) of this section; and

(C) Technical data described in paragraph (a)(5) of this section.

(x) The contract sanctity date for license applications subject to paragraphs (b) and (c) of this section is March 7, 1991.

(xi) The contract sanctity date for reexports of chemicals controlled under ECCN 4798B is March 7, 1991, except that the contract sanctity date for reexports of these chemicals to Iran, Libya, or Syria is December 12, 1969.

(xii) The contract sanctity date for reexports of viruses and viroids identified under ECCN 4907B and bacteria, fungi, and protozoa identified under ECCN 4908B is March 7, 1991.

(xiii) Applicants who wish a pre-existing contract to be considered in reviewing their license applications must submit documentation sufficient to establish the existence of a contract.

(4) When preparing a license application for chemicals, applicants shall type the Chemical Abstract Service (C.A.S.) Registry number in Item 9(b) before each chemical name. The C.A.S. numbers are listed with the controlled chemicals in ECCN 4798B under the "List of Chemicals." See Supplement No. 1 to § 776.2 of this subchapter. Interpretation 23: Precursor Chemicals, for synonyms of controlled chemicals in ECCN 4798B.

(e) Commodities and technical data described in paragraph (a) of this section are not eligible for the Distribution License procedure, the Service Supply License procedure, and the Project License procedure.

15. A new § 778.9 is added to read as follows:

§ 778.9 Activities of U.S. persons.

(a) A validated license or reexport authorization is required for the export, reexport, or transfer of any commodities, software, or technical data, regardless of origin, by a U.S. person (defined below) where that person knows that such commodities, software, or technical data:

(1) Will be used in the design, development, production, or use of missiles in or by a country where a project listed in Supplement No. 6 to this part 778 is located; or

(2) Will be used in the design, development, production, stockpiling, or use of chemical or biological weapons in or by a country listed in Supplement No. 5 to this part 778.

(b) No U.S. person shall, without a validated license or other authorization from BXA:

(1) Perform any contract, service, or employment that the U.S. person knows will assist in the design, development, production, or use of missiles in or by a country where a project listed in Supplement No. 6 to this part 778 is located;

(2) Perform any contract, service, or employment that the U.S. person knows will assist in the design, development, production, stockpiling, or use of chemical or biological weapons in or by a country listed in Supplement No. 5 to this part 778.

(c) No U.S. person shall, without a validated license or other authorization

from BXA, participate in the design, construction, or export of a whole plant to make chemical weapons precursors identified in ECCN 4798B, in countries other than Australia, Austria, Belgium, Canada, Denmark, the Federal Republic of Germany, France, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Switzerland, Turkey, and the United Kingdom.

(d) No U.S. person shall, without a validated license or other authorization from BXA, knowingly support an export, reexport, or transfer that does not have a validated license or other authorization as required by this section. Support means any action, including financing, transportation, and freight forwarding, by which a person facilitates and export, reexport, or transfer without being the actual exporter or reexporter.

(e) BXA may inform U.S. persons, either individually or through amendment to these regulations, that an individual validated license is required because an activity could involve the types of participation and support described in paragraphs (a) through (d) of this section, anywhere in the world. When such notice is provided orally, it will be followed by a written notice within two working days signed by the Deputy Assistant Secretary for Export Administration.

(f) For purposes of this section, the term U.S. person includes:

(1) Any individual who is a citizen or permanent resident alien of the United States;

(2) Any juridical person organized under the laws of the United States or any jurisdiction within the United States, including foreign branches; and

(3) Any person in the United States.

(g) It shall be the policy of the Department of Commerce to permit no activity covered by this section that is material in terms of its contribution to the design, development, production, stockpiling, or use of chemical or biological weapons, or of missiles.

(h) See §§ 770.2 and 778.1(a) of this subchapter for definitions of other terms used in this section.

16. A new § 778.10 is added to read as follows:

§ 778.10 Effect of other provisions.

If, at the time of export, a validated license is also required under other provisions of the Export Administration Regulations in this subchapter, the application shall be submitted in accordance with the provisions of this part 778 as well as other applicable provisions. The requirements of this part

778 are applicable in addition to, rather than in lieu of, any other validated license requirement set forth in the Export Administration Regulations in this subchapter. Insofar as consistent with the provisions of this part 778, all of the other provisions shall apply equally to applications for licenses and licenses issued under these special provisions.

17. Part 778 is amended by adding a new Supplement No. 6 to read as follows:

Supplement No. 6—Missile Technology Projects

(No projects are identified at this time.)

PART 779—(AMENDED)

§ 779.4 (Amended)

18. In § 779.4, paragraph (d)(16) is amended by revising the phrase "778.18" to read "778.7".

19. Section 779.4 is amended by adding a new paragraph (j) to read as follows:

§ 779.4 General License GTDR: Technical data under restriction.

(j) Additional restrictions applicable to chemical or biological weapons. In addition to any other restrictions in § 779.4, the use of General License GTDR is further restricted by § 778.8(a)(5) of this subchapter.

Supplement No. 4 to part 779—(Amended)

20. In supplement No. 4 to part 779 (Additional Specifications for Certain Technical Data Requiring a Validated License to all Destinations Except Canada), paragraph (4) is amended by revising the phrase "§ 778.18(a)" to read "§ 778.7(a)(1) of this subchapter" in the following entries: ECCN 1501A, ECCN 4518B, ECCN 1531A, ECCN 1565A, ECCN 1568A, and ECCN 4568B.

PART 799—(AMENDED)

21. In the list below, for each ECCN on the Commodity Control List (Supplement No. 1 to § 796.1) that is indicated in the left column, remove the reference indicated in the middle column from wherever it appears in each ECCN, and add the reference indicated in the right column:

ECCN	Remove	Add
2018A: Controls for ECCN heading: <i>Commissaires Not Eligible for General License OCT</i> Reason for Control	§ 778.18(a) § 778.18(a)	§ 778.7(a)(1) § 778.7(a)(1)
4131B: Controls for ECCN heading: Reason for Control	§ 778.18(a)	§ 778.7(a)(1)
4133B: Controls for ECCN heading: Reason for Control	§ 778.18(a)	§ 778.7(a)(1)
1381A: Controls for ECCN heading: Reason for Control Special License Available	§ 778.18(a) § 778.18(c)	§ 778.7(a)(1) § 778.7(a)
1382A: Controls for ECCN heading: Reason for Control	§ 778.18(a)	§ 778.7(a)(1)
1385A: Controls for ECCN heading: Special License Available	§ 778.18(c)	§ 778.7(e)
1480A: Controls for ECCN heading: Special License Available	§ 778.18(c)	§ 778.7(e)
1484A: Controls for ECCN heading: Reason for Control Special License Available	§ 778.18(a) § 778.18(c)	§ 778.7(a)(1) § 778.7(e)
1521A: Controls for ECCN heading: Reason for Control (2 references) Special License Available	§ 778.18(a) § 778.18(c)	§ 778.7(a)(1) § 778.7(e)
1531A: Controls for ECCN heading: <i>Commissaires Not Eligible for General License OCT (2 references)</i> Reason for Control (2 references) Special License Available	§ 778.18(a) § 778.18(a) § 778.18(c)	§ 778.7(a)(1) § 778.7(a)(1) § 778.7(e)
1548A: Controls for ECCN heading: Reason for Control Special License Available	§ 778.18(a) § 778.18(c)	§ 778.7(a)(1) § 778.7(e)
1581A: Controls for ECCN heading: Reason for Control Special License Available	§ 778.18(a) § 778.18(c)	§ 778.7(a)(1) § 778.7(e)
1584A: Controls for ECCN heading: Special License Available	§ 778.18(c)	§ 778.7(e)
1586A: Controls for ECCN heading: <i>Commissaires Not Eligible for General License OCT</i> Reason for Control	§ 778.18(a) § 778.18(a)	§ 778.7(a)(1) § 778.7(a)(1)

ECCN	Reserve	ADD
Special License Available		
1588A: Controls for ECCN heading:	\$ 778.1800	\$ 778.796
Reason for Control:		
Special License Available:	\$ 778.1800	\$ 778.796(1)
4888: Controls for ECCN heading:	\$ 778.1800	\$ 778.796
Reason for Control:		
Special License Available:	\$ 778.1800	\$ 778.796(1)
1588A: Controls for ECCN heading:	\$ 778.1800	\$ 778.796
Special License Available:	\$ 778.1800	\$ 778.796(1)
173A: Controls for ECCN heading:	\$ 778.1800	\$ 778.796
Reason for Control:		
Special License Available:	\$ 778.1800	\$ 778.796(1)
178A: Controls for ECCN heading:	\$ 778.18	\$ 778.796(1)
Reason for Control:		
Special License Available:	\$ 778.1800	\$ 778.796
178A: Controls for ECCN heading:	\$ 778.1800	\$ 778.796(1)
Reason for Control:		

21. In Supplement No. 1 to § 799.1 (the Commodity Control List), Commodity Group 7 (Chemicals, Metalloids, Petroleum Products and Related Materials), ECCN 4798B is amended by revising the Validated Licenses Required and Special Licenses Available paragraphs, as follows:

4798B Precursor and Intermediate Chemicals used in the production of chemical warfare agents.

Controls for ECCN 4798B

Unit: . . .

Validated Licenses Required: All destinations except Australia, Austria, Belgium, Canada, Denmark, the Federal Republic of Germany, France, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Switzerland, Turkey, and the United Kingdom, except as provided below.

(a) **Sample Shipments:** General License G-DEST is available for one sample shipment of a 53-gallon container (200 liters) or less of each chemical to any one consignee per calendar year (not applicable to Country Groups S and Z, Iran, Iraq, or Syria).

(b) **Compounds:** General License G-DEST is available, except to Country Groups S and Z, and the South African military and police, for compounds that are created from chemicals controlled under this ECCN 4798B provided that the compound itself is not controlled under this ECCN or another ECCN on the CCL. (Mixtures that contain chemicals controlled under this ECCN are controlled as precursors, except when the precursor chemical is merely an impurity that was not intentionally added or is a normal ingredient in

consumer goods intended for retail sale.)

Special Licenses Available: See part 773 of this subchapter.

Dated: August 9, 1991.

James M. LeMay, Jr.,

Deputy Assistant Secretary for Export Administration.

(FR Doc. 91-18208 Filed 8-14-91; 8:45 am)

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

21 CFR Parts 606 and 639

(Draft No. 679-6376)

Genitain Violet in Animal Feed; Genitain Violet for Use in Food Animals

AMEND: Food and Drug Administration, HHS.

ACTION: Final rule.

SUMMARY: The Food and Drug Administration (FDA) is amending its regulations to declare that genitain violet is neither generally recognized as safe (GRAS) nor prior sanctioned and is a food additive when added to animal feed for any non-drug use. FDA is also amending its regulations to reflect its determination that genitain violet is not GRAS, generally recognized as effective (GRAE), or "grandfathered" under the Drug Amendments of 1962, and is therefore a new animal drug when used for any veterinary drug purpose in food animals. Finally, FDA is revoking its interim policy permitting the use of genitain violet at levels up to 8 parts per

million (ppm) as a mold inhibitor in poultry feed. Continued marketing of genitain violet for use in any food animal species will be permitted only under provision of a food additive regulation or an approved new animal drug application (NADA). There are currently no published food additive regulations or approved NADA's for genitain violet in food animals.

This final rule is based on FDA's conclusion that the criteria for GRAS and GRAE status are not met with respect to the use of genitain violet in food animals. FDA has concluded, based on studies conducted by its National Center for Toxicological Research (NCTR), that genitain violet causes cancer in test animals and that residues of genitain violet occur in the edible tissues of chickens under the current uses.

DATE: This final rule is effective September 15, 1991, at which time manufacturer of genitain violet premixes must cease. The agency's interim policy, adopted July 27, 1982 (47 FR 32480), permitting the use of genitain violet for the prevention of mold growth in poultry feed at up to 8 ppm, is hereby revoked as of September 15, 1991. After the effective date of the final rule, any genitain violet premix intended for use in food-producing animals will be in violation of the Federal Food, Drug, and Cosmetic Act (the act), in order to allow for an orderly phaseout, however, distribution of premixes shall cease by September 30, 1991; and distribution and use of poultry feed containing genitain violet shall cease by October 15, 1991.

FOR FURTHER INFORMATION CONTACT: George Graham, Center for Veterinary Medicine (HFV-230), Food and Drug

LETTER OF REQUEST AND SUPPLEMENTARY RESPONSE OF MR. SOKOLSKI

EDWARDS
PAUL S. BARBARO, MARYLAND,
 CHAIRMAN
 LLOYD BENTSEN, TEXAS
 EDWARD M. BRENNY, MASSACHUSETTS
 JEFF BINGAMAN, NEW MEXICO
 ALBERT GOKE, JR., TENNESSEE
 RICHARD H. BRYAN, NEVADA
 WILLIAM V. ROY, JR., DELAWARE
 STEVE SYRMS, IDAHO
 CONNIE MACI, FLORIDA
 ROBERT C. SMITH, NEW HAMPSHIRE

STEPHEN A. QUACK,
 EXECUTIVE DIRECTOR

Congress of the United States

JOINT ECONOMIC COMMITTEE
 (CREATED PURSUANT TO SEC. 886 OF PUBLIC LAW 304, 77TH CONGRESS)

Washington, DC 20510-6602

HOUSE OF REPRESENTATIVES
 LEE H. SWANWICK, MISSOURI,
 VICE CHAIRMAN
 DAVID A. OBAY, WISCONSIN
 JAMES H. SCHLESER, NEW YORK
 FORTNEY PETE STARK, CALIFORNIA
 STEPHEN A. SOLARZ, NEW YORK
 KENNETH MARSH, MARYLAND
 RICHARD SC. BERRY, TEXAS
 CHALLENGER A. WYLLIE, OHIO
 OLYMPIA J. BRONKHORST, MAINE
 HAMILTON FISH, JR., NEW YORK

May 7, 1991

Henry D. Sokolski
 Deputy for Non-Proliferation Policy
 Office of the Assistant Secretary of Defense
 (International Security Affairs)
 Department of Defense
 The Pentagon 20301-1155

Dear Mr. Sokolski:

I stated at the close of the hearing on April 23, 1991, that I would send you additional written questions for you to answer. Please respond to the following questions and requests for information:

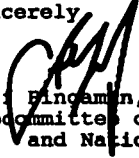
1. How many countries already have or are in the process of acquiring weapons in each of the non-proliferation categories - nuclear, chemical, biological, and ballistic and cruise missiles - and how do the present numbers compare with the numbers and projections for 5, 10, 15, and 20 years ago?
2. Discuss whether improvements in technology over the past 20 years have reduced the costs and otherwise facilitated the acquisition of sensitive weapons technologies - nuclear, chemical, biological, and missile technologies - by developing countries?
3. Discuss how the proliferation of sensitive weapons technologies among developing countries has increased threats to regional and U.S. national security. Is it possible to estimate the budgetary consequences for the U.S. of such increased threats?
4. What is your assessment of the roles of Germany and other NATO allies in slowing the proliferation of sensitive weapons technologies and how their efforts to prevent the export of sensitive weapons technologies compare with our own?
5. Gary Milhollin, in his testimony, cited several items of equipment including machine tools, lasers, quartz crystals, high speed oscilloscopes, and measuring and calibrating testing equipment, that were approved for export to Iraq during 1985-1990. What is your assessment of the possible effects these exports may have had on Iraq's nonconventional military programs and capabilities?

6. Discuss any technical assistance or technologies provided by the Defense Department to China over the past 10 years that may have contributed to China's nuclear weapons, chemical and biological weapons, and missile programs.

So that we can close the record of the hearing, please forward the response to my requests no later than Tuesday, May 24, 1991.

Your cooperation will be appreciated.

Sincerely,



Jeff Bingaman, Chairman
Subcommittee on Technology
and National Security

INSERT FOR THE RECORD					
HOUSE	APPROPRIATIONS COMMITTEE	HOUSE	ARMED SERVICES COMMITTEE	HOUSE	OTHER
SENATE		SENATE		X SENATE	Joint Economic Cmte
HEARING DATE	TRANSCRIPT PAGE NO.	LINE NO.	INSERT NO.		
April 23, 1991					Q-1

Question 1: How many countries already have or are in the process of acquiring weapons in each of the non-proliferation categories, and how do the present numbers compare with the numbers and projections for 5, 10, 15, and 20 years ago?

Answer: Countries presently assessed to have or which are in the process of acquiring a Chemical Warfare (CW) and a biological warfare (BW) capability include:

CW Programs

Confirmed

Suspected

Deleted

Historical trends in proliferation of chemical weapon capabilities have shifted from the situation just after World War II, when the major powers all had developed and retained chemical stockpiles. At that time, the Allied Powers and the Axis had independently retained chemical stockpiles as a deterrent against the use of chemicals by their opponents. The restraint in preventing chemical use during the war prompted dismantling of some of these chemical stockpiles.

More recently, developing countries have acquired the financial means as well as the political will to get their own chemical weapons, and some of these countries have used chemicals in war when the opponent could not reciprocate in kind. The most notable case is Iraq, which made extensive use of chemicals during the war with Iran. The focus of chemical warfare development activity has shifted from Europe to the Middle East in the past two decades as ~~Deleted~~, Iran, Iraq, ~~Deleted~~ have all developed chemical weapon capabilities.

Future developments in the chemical capabilities of proliferating countries will likely center on Asian countries,

~~Deleted~~ and possibly others. The existing rivalries between these countries, coupled with their growing industrialization and technical capabilities, could result in their developing a chemical weapon capability.

The low cost and readily available technical information about biological technology will make a BW program a distinct

INSERT FOR THE RECORD					
HOUSE	APPROPRIATIONS COMMITTEE	HOUSE	ARMED SERVICES COMMITTEE	HOUSE	OTHER
SENATE		SENATE		SENATE	
HEARING DATE	TRANSCRIPT PAGE NO.	LINE NO.	INSERT NO.		Joint Economic Cmte
April 23, 1991					Q-1, p. 2

possibility.

~~Deleted~~
 Advances in reducing the costs and complexity of biological production could reverse this trend in time and could allow some proliferating countries to produce biological weapons as their first choice of toxic weapon.

Present BW Programs

Confirmed

Suspected

~~Deleted~~

~~Deleted~~
 Countries -- Third World and former Eastern bloc have or are in the process of obtaining ballistic missile systems. These systems are mostly short-range ballistic missiles (SRBMs) with 300-km ranges and are based on older SCUD technologies. Apart from the extended-range variants of the SCUD SRBMs, the only operational missiles in these countries with greater ranges are

~~Deleted~~

A comparison with previous missile projections cannot be adequately addressed.

~~Deleted~~

Consequently, Third World and former East bloc countries purchasing missiles were excluded.

Proliferation of nuclear weapons throughout the Third World is a growing problem and will continue. In addition to the five acknowledged nuclear weapon states (China, France, the U.S.S.R., the United Kingdom, and the United States), ~~India~~
~~Deleted~~ either have, or could have, nuclear weapons shortly after a decision to do so. ~~Deleted~~ additional potential nuclear proliferators

~~Deleted~~ appear to be striving for nuclear self-sufficiency, and should any achieve nuclear fuel cycle independence within the next 5 to 10 years, it could move quickly to achieve a nuclear weapon fabrication capability.

~~Deleted~~

1 Depending on

INSERT FOR THE RECORD					
HOUSE	APPROPRIATIONS COMMITTEE	HOUSE	ARMED SERVICES COMMITTEE	HOUSE	OTHER
SENATE		SENATE		X SENATE	
HEARING DATE	TRANSCRIPT PAGE NO.	LINE NO.	INSERT NO.		
April 23, 1991					Q-1, P.3

the power level and, particularly, the type of fuel used, the

Deleted

In general, there has been a decrease in the number of countries with nuclear weapon programs. More specifically, both Brazil and Argentina seem to have given up their military-related nuclear pursuits in favor of peaceful ones.

INSERT FOR THE RECORD					
HOUSE	APPROPRIATIONS COMMITTEE	HOUSE	ARMED SERVICES COMMITTEE	HOUSE	OTHER
SENATE		SENATE		SENATE	Joint Economic Cmte
HEARING DATE	TRANSCRIPT PAGE NO.	LINE NO.	INSERT NO.		
April 23, 1991					Q-2

Question 2: Discuss whether improvements in technology over the past 20 years have reduced the costs and otherwise facilitated the acquisition of sensitive weapons technologies--nuclear, chemical, biological, and missile technologies--by developing countries?

Answer: Improvements in access to ballistic missile technology and manufacturing processes have reduced cost, thus encouraging acquisition of sensitive missile technology in developing countries. However, the more elaborate technologies, providing greater missile performance such as inertial navigational systems and composites, are still very expensive and generally difficult to acquire. Consequently, most developing nations are forced to acquire missile technology at a more modest level.

Significant technological data are available from open sources and can serve as fundamental design data for new ballistic missile systems. However, a ballistic missile system incorporates a variety of complex and diverse technologies, requiring developing countries with prospective indigenous ballistic missile programs to seek foreign assistance to avoid a protracted development cycle. Guidance and control systems, materials for the airframe, rocket nozzles, reentry vehicles, motor cases, and propulsion systems are essential to successful manufacture of a missile. These materials and components are expensive and generally very difficult to acquire, because supplying firms are restricted by national export controls. Inertial navigational systems are costly and complex to build. The manufacture of composite motor cases requires technologies and materials difficult to find in most developing countries. Therefore, steel cases are often used in rocket motors, imposing limits on missile performance. Nevertheless, at a more modest level of technology, China and North Korea continue to offer not only the missile system, but also the production capability.

As more technology becomes available to the world in general, an aspiring proliferant country will find it easier and easier to develop and acquire nuclear weapons, particularly if money is no object. A lesson can be learned from the latest revelations in Iraq, where a readily available, though unsophisticated and costly, uranium enrichment method (ElectroMagnetic Isotope Separation, EMIS) was being used to produce weapon-grade material. Also, as world technology becomes more and more sophisticated, it becomes much easier to adapt devices designed for peaceful pursuits to the cause of nuclear weaponry.

In the chemical and biological weapon fields, technology is available from a variety of sources. The advances in

INSERT FOR THE RECORD						
HOUSE	APPROPRIATIONS COMMITTEE	HOUSE	ARMED SERVICES COMMITTEE	HOUSE	OTHER	
SENATE		SENATE		SENATE	y	SENATE
HEARING DATE	TRANSCRIPT PAGE NO.	LINE NO.	INSERT NO.			
April 23, 1991						
						0-2.f.2

biological technology that are underway are being widely discussed and shared in international forums. While these technologies are intended for peaceful purposes, there is a significant risk of diversion to the production of BW-related production or other activities which would support BW programs. The assimilation of these technologies by developing countries could result in development of a BW capability, assuming a political decision is taken to pursue such a capability. Chemical technology is already well known and readily available. The major hurdle in starting a chemical program is providing engineering expertise and operating experience in making the established processes work as intended.

INSERT FOR THE RECORD					
HOUSE	APPROPRIATIONS COMMITTEE	HOUSE	ARMED SERVICES COMMITTEE	HOUSE	OTHER
SENATE		SENATE		X SENATE	Joint Economic Cmte
HEARING DATE	TRANSCRIPT PAGE NO.	LINE NO.	INSERT NO.		
April 23, 1991					Q-4

Question 4: What is your assessment of the roles of Germany and other NATO allies in slowing the proliferation of sensitive weapons technologies and how their efforts to prevent the export of sensitive weapons technologies compare with our own?

Answer: The NATO countries participate in several international efforts to limit the proliferation of weapons of mass destruction and to prevent the export of sensitive technology to countries of concern. The Australia Group, which is directed toward limiting chemical and biological weapon proliferation, has been relatively successful in getting cooperation of the participating countries in stopping the export of critical chemicals, biological supplies, and equipment to these countries. All NATO countries, including Germany, are active participants in the Australia Group. In addition, there are initiatives under the Coordinating Committee (COCOM) regime to limit technologies used in the production of missiles and other weapon systems of concern. The NATO countries have been active in promoting these controls and making them work to prevent further proliferation.

Germany has been particularly active in preventing proliferation of chemical weapons. Catalyzed by the international embarrassment suffered during the Babta crisis of late 1988/early 1989, Germany has implemented more stringent export controls on all critical technologies. These controls have resulted in cancellation of orders placed with German companies and brokers as Germany strives to avoid any exports that could possibly be used in support of sensitive weapon production.

Other countries, notably Japan, have instituted internal controls on exports of critical weapons and technologies to countries and regions of concern. These controls go beyond what is expected under the restrictions imposed by COCOM and the Australia Group.

INSERT FOR THE RECORD					
HOUSE	APPROPRIATIONS COMMITTEE	HOUSE	ARMED SERVICES COMMITTEE	HOUSE	OTHER
SENATE		SENATE		SENATE	
HEARING DATE	TRANSCRIPT PAGE NO.	LINE NO.	INSERT NO.	Joint Economic Cnra	
April 23, 1991					Q-5

Question 5: Gary Milhollin, in this testimony, cited several items of equipment including machine tools, lasers, quartz crystals, high speed oscilloscopes, and measuring and calibrating testing equipment, that were approved for export to Iraq during 1985-1990. What is your assessment of the possible effects these exports may have had on Iraq's nonconventional military programs and capabilities?

Answer: Although the technical specifications on the equipment items cited by Mr. Milhollin have not been reviewed, DIA's opinion is that most of the items can be classed as general-purpose scientific and industrial hardware.

Deleted

DIA cannot determine precisely how and where the equipment was employed, or how effectively. Such equipment would be important to facilitating R&D on nonconventional weapon research and development, but would not, in itself, be critical. Furthermore, while the United States is a good source for many items of scientific equipment, there are other equivalent sources for comparable scientific hardware among the industrialized countries.

LETTER OF REQUEST AND SUPPLEMENTARY RESPONSE OF MR. CLARKE

SENATE

PAUL S. SARIBANES, MARYLAND,
 CHAIRMAN
 LLOYD BENTSEN, TEXAS
 EDWARD M. KENNEDY, MASSACHUSETTS
 JEFF BINGHAM, NEW MEXICO
 ALBERT GORE, JR., TENNESSEE
 RICHARD H. SPYER, NEVADA
 WILLIAM V. Roth, JR., DELAWARE
 STEVE SYMS, IDAHO
 CONNIE MACK, FLORIDA
 ROBERT C. SMITH, NEW HAMPSHIRE

STEPHEN A. QUICK,
 EXECUTIVE DIRECTOR

HOUSE OF REPRESENTATIVES

LEE H. HAMBLTON, ILLINOIS,
 VICE CHAIRMAN
 DAVID L. OBAY, WISCONSIN
 JAMES H. SCHUBERT, NEW YORK
 JONHAY PETER STANG, CALIFORNIA
 STEPHEN J. SOLARZ, NEW YORK
 KENNETH SPURLOCK, MARYLAND
 RICHARD L. ARMSTRONG, TEXAS
 CHALMERS F. WYLLIE, OHIO
 OLYMPIA J. SNOWE, MAINE
 HAMILTON FISH, JR., NEW YORK

Congress of the United States

JOINT ECONOMIC COMMITTEE

CREATED PURSUANT TO SEC. 563 OF PUBLIC LAW 304, 78TH CONGRESS

Washington, DC 20510-6602

May 7, 1991

The Honorable Richard A. Clarke
 Assistant Secretary of State
 Political-Military Affairs
 Department of State
 Washington, D.C. 20520

Dear Secretary Clarke:

I stated at the close of the hearing on April 23, 1991, that I would send you additional written questions for you to respond to. Please respond to the following questions and requests for information:

1. I am informed that in the period 1985-1990 a large number of munitions licenses for arms shipments to Iraq were approved by the State Department.

Is it true that munitions licenses for exports to Iraq were approved during 1985-1990?

How many munitions licenses were approved during this period?

What was the gross value of licenses approved?

Were any of these licenses later revoked?

2. Please provide a complete list of all licenses for arms or munitions approved by the State Department for export to Iraq in the period 1985-1990, showing for each license approved the name of the exporter, the type of equipment, the value of the export, the end user, and any referrals to other agencies. If any of this information is classified, provide both a classified list and a sanitized, unclassified version.

3. Explain the procedure for referring license applications to the Defense Department and what actions Defense can take with regard to referrals.

Are Defense and other agencies permitted to screen license applications? If so, explain the screening process.

4. Discuss whether any of the license applications for exports to Iraq during 1985-1990 were referred to Defense, the number of such referrals, and the actions taken by Defense.

How have these processes been affected in the case of missile technology licence applications by section 1703 of the FY 1991 Defense Authorization Act (which amended the Arms Export Control Act by adding a new Chapter 7 on missile technology)?

Should these missile technology procedures be broadened to other sensitive weapons technologies?

5. In his written statement, Gary Milhollin cites 3 instances of exports to Iraq - one involving the export of lasers to the Iraqi military, a second involving the export of quartz crystals used in radars, and a third involving frequency synthesizers - in which the commodity control numbers assigned to the items were also on the missile technology control list. They therefore should have been referred by the Commerce Department to the State Department but were not, according to Mr. Milhollin.

Were these items on the missile technology control list and were the license applications referred to State?

If the items were referred to State, what actions were taken?

6. Critics of current plans to reduce items from the COCOM control list argue that this will often mean dropping the only controls that many COCOM countries have on dual-use exports, and that it will make it easier for developing countries to obtain sensitive weapons technologies - chemical, biological, nuclear, and missile technologies - from COCOM members directly or through the former East Bloc countries.

How do you respond to this argument?

Once COCOM controls are loosened, what will prevent the re-export of sensitive western technology to proliferant countries?

7. Is it the State Department's view that the U.S. government has no evidence that China has exported sensitive weapons technologies, including nuclear and missile technologies, to developing countries?

8. Stories continue to appear in the media that China has agreed to export or has exported technologies to Algeria that will help Algeria develop the capability for producing nuclear weapons.

Has China exported or has it agreed to export such technologies to Algeria?

Is Algeria attempting to acquire the capability for producing nuclear weapons?

9. Provide a list of countries that already have or are attempting to acquire sensitive weapons, broken down for each of the following categories: nuclear, chemical, and biological

weapons, and ballistic and cruise missiles. If any of the names of countries are considered classified, explain the rationale for classifying them.

So that we can close the record of the hearing, please forward the response to my requests no later than Tuesday, May 24, 1991.

Your cooperation will be appreciated.

Sincerely,



Jeff Bingaman, Chairman
Subcommittee on Technology
and National Security



United States Department of State

Washington, D.C. 20520

June 11, 1991

Dear Mr. Chairman:

Following the April 23, 1991 hearing at which Assistant Secretary Richard A. Clarke testified, additional questions were submitted for the record. Please find enclosed the responses to those questions.

Sincerely,

A handwritten signature in cursive script that reads "Janet G. Mullins".

Janet G. Mullins
Assistant Secretary
Legislative Affairs

Enclosures:
As stated.

The Honorable
Jeff Bingaman, Chairman,
Subcommittee on Technology and National Security,
Joint Economic Committee.

Question for the Record submitted to Richard A. Clarke
Joint Economic Committee on Export Controls
April 23, 1991

Question:

1. I am informed that in the period 1985-1990 a large number of munitions licenses for arms shipments to Iraq were approved by the State Department.

Is it true that munitions licenses for exports to Iraq were approved during 1985-1990?

How many licenses were approved during this period?

What was the gross value of licenses approved?

Were any of these licenses later revoked?

Answer:

Sixteen such licenses were approved.

Four licenses valued at \$41 million were revoked following Iraq's invasion of Kuwait.

The value of the remaining twelve licenses was \$3 million.

Question for the Record submitted to Richard A. Clarke
Joint Economic Committee on Export Controls
April 23, 1991

Question:

2. Please provide a complete list of all licenses for arms or munitions approved by the State Department for export to Iraq in the period 1985-1990, showing for each license approved the name of exporter, the type of equipment, the value of the export, the end user, and any referrals to other agencies. If any of this information is classified, provide both a classified list and a sanitized, unclassified version.

Answer:

The sixteen licenses authorized the permanent export to Iraq of electronic communications equipment. Four of these licenses were revoked following Iraq's invasion of Kuwait.

Question for the Record submitted to Richard A. Clarke
Joint Economic Committee on Export Controls
April 23, 1991

Question:

3. Explain the procedure for referring licenses applications to the Defense Department and what actions Defense can take with regard to referrals.

Are Defense and other agencies permitted to screen license applications? If so, explain the screening process.

Answer:

3. An application is referred to Defense whenever State is aware of a DoD interest, or State believes it requires DoD's technical expertise, or State believes DoD would want it referred. DoD may stop the issuance of a license or add conditions and limitations. Agencies such as the Department of Defense and the Arms Control and Disarmament Agency are free to screen license applications at any time. Six DoD officers are assigned to the licensing division of the Center for Defense Trade. Approximately twenty seven percent of the applications submitted to the State Department, during FY 90, to export defense articles and defense services were referred to other offices within the Department and/or to other agencies for advice as to what action should taken with regard to the applications. Approximately twenty four percent of the applications submitted were referred to Defense. Applications that were not staffed were addressed within the State Department's Office of Defense Trade Controls.

Question for the Record submitted to Richard A. Clarke
Joint Economic Committee on Export Controls
April 23, 1991

Question:

4. Discuss whether any of the license applications for exports to Iraq during 1985-1990 were referred to Defense, the number of such referrals, and the actions taken by Defense.

How have these processes been affected in the case of missile technology license applications by section 1703 of the FY 1991 Defense Authorization Act (which amended the Arms Export Control Act by adding a new Chapter 7 on missile technology)?

Answer:

All of the sixteen applications were staffed, either formally or informally, to Defense or other appropriate agencies. In the twelve cases staffed to Defense, Defense recommended approval, without provisos, in ten (10) instances; and, Defense recommended approval, with provisos, in two (2) instances.

As a result of the legislation passed in the 1991 Defense Authorization Act the Department of State Defense Trade Controls licensing officers are now referring more export license requests than previously to the Department of Defense. These additional licenses include those for spare and replacement parts that were not previously staffed to the Department of Defense. This legislation has also resulted in an increase in export licenses staffed to the interagency Missile Technology Export Control (MTEC) group. The MTEC reviews export licenses on a case by case basis for missile proliferation concerns.

Question for the Record submitted to Richard A. Clarke
Joint Economic Committee on Export Controls
April 23, 1991

Question:

5. In his written statement, Gary Milhollin cites 3 instances of exports to Iraq - one involving the export of lasers to the Iraqi military, a second involving the export of quartz crystals used in radars, and a third involving frequency synthesizers - in which the commodity control numbers assigned to the items were also on the missile technology control list. They therefore should have been referred by the Commerce Department to the State Department but were not, according to Mr. Milhollin.

Were these items on the missile technology control list and were the license applications referred to State?

If the items were referred to State, what actions were taken?

Answer:

Mr. Milhollin was wrong in asserting these items are on the MTCR list. Lasers, quartz crystals, and frequency synthesizers are not listed as distinct items on the Missile Technology Control Regime (MTCR) Equipment and Technology Annex. These items are dual use, vary in quality and capability, and have a wide range of civilian uses. Many such items are incapable of use in missile components or military equipment. Therefore, only if these items were included in missiles or missile support equipment, such as missile capable radars listed on the MTCR Equipment and Technology Annex, would they be referred by the Department of Commerce to the Missile Technology Export Control (MTEC) group for review.

The Department of Commerce did not refer these items to the Department of State-chaired MTEC group for review.

Question for the Record submitted to Richard A. Clarke
Joint Economic Committee on Export Controls
April 23, 1991

Question:

6. Critics of current plans to reduce items from the COCOM control list argue that this will often mean dropping the only controls that many COCOM countries have on dual-use exports, and that it will make it easier for developing countries to obtain sensitive weapons technologies - chemical, biological, nuclear, and missile technologies - from COCOM members directly or through the former East Bloc countries. How do you respond to this argument?

Once COCOM controls are loosened, what will prevent the re-export of sensitive western technology to proliferant countries?

Answer:

Some COCOM partners have relied on their COCOM regulations to control some exports of proliferation concern. To address this issue, the COCOM High Level Group has stated that streamlining of the COCOM list will in no way affect the ability of a country to continue to exercise the right of control, for national policy reasons or in fulfillment of international agreements.

Our non-proliferation partners do not use COCOM as a mechanism for controlling CBW-related exports. Hence, any changes in COCOM mechanisms will leave those controls unaffected.

As for nuclear related items, the United States has taken the lead in creating a dual-use technologies list which we are proposing to attach as a Zangger list annex.

On missiles and missile technology, in July 1990, the MTCR Partners agreed that as items of missile proliferation concern are dropped from the COCOM list, they would continue to be controlled for missile nonproliferation purposes.

Question for the Record submitted to Richard A. Clarke
Joint Economic Committee on Export Controls
April 23, 1991

Question:

7. Is it the State Department's view that the U.S. Government has no evidence that China has exported sensitive weapons technologies, including nuclear and missile technologies, to developing countries.

Answer:

No. While specific evidence and some specific cases are classified, we do have continuing concerns about China's commitment to the non-proliferation of sensitive weapons technologies. Indeed, because of China's missile assistance to Pakistan, we are reviewing actions such as trade sanctions on Chinese entities, as required by the 1990 National Defense Authorization Act; suspension of licensing for high speed computers; and no further waivers of legislative restrictions on satellite exports until we reach an understanding on the export of missile technology and equipment. Because of these concerns, the United States is engaged in a continuing dialogue with the Chinese government, seeking clarification of Beijing's implementation of its non-proliferation policies. What we seek from China is a solid commitment to help arrest the proliferation of weapons of mass destruction and their delivery systems through multilateral cooperation and adherence to international standards.

Question for the Record submitted to Richard A. Clarke
Joint Economic Committee on Export Controls
April 23, 1991

Question:

8. Stories continue to appear in the media that China has agreed to export or has exported technologies to Algeria that will help Algeria develop the capability for producing nuclear weapons.

Has China exported or has it agreed to export such technologies to Algeria?

Is Algeria attempting to acquire the capability for producing nuclear weapons?

Answer:

Both Algeria and China have made recent public statements that they are cooperating in the peaceful uses of nuclear energy. This cooperation involves supply to Algeria of a research reactor, characterized by China as "very small, with a designed power of ten megawatts and maximum thermal power of fifteen megawatts." Algeria has publicly indicated that it will place the reactor under IAEA safeguards. We have been discussing this cooperation with the Governments of Algeria and China, both to ascertain its extent and to impress upon both parties our concern that it be strictly for peaceful purposes.

Question for the Record submitted to Richard A. Clarke
Joint Economic Committee on Export Controls

April 23, 1991

Question:

9. Provide a list of countries that already have or are attempting to acquire sensitive weapons, broken down for each of the following categories: nuclear, chemical, and biological weapons, and ballistic and cruise missiles. If any of the names of countries are considered classified, explain the rationale for classifying them.

Answer:

There are five de jure nuclear weapon states (as defined by the NPT): The U.S., the UK, France, USSR, and China. One other state, India, has openly tested a nuclear explosive device. A number of other countries either have nuclear programs, or have given evidence of nuclear intentions, suggestive of an interest in acquiring a nuclear weapons capability.

There are five nations that have been named in unclassified U.S. Government statements as having a confirmed chemical weapons program. These are the Soviet Union, Iran, Iraq, Libya, and Syria. There are two nations, the Soviet Union and Iraq, that have been identified in unclassified U.S. Government statements as having offensive biological weapons programs.

There are nineteen developing nations that either possess or have sought to acquire ballistic or cruise missiles. These nations are Afghanistan, Argentina, Brazil, Egypt, India, Iran, Iraq, Israel, Libya, North Korea, Pakistan, Saudi Arabia, South Africa, South Korea, Syria, Taiwan, the United Arab Emirates, Vietnam and Yemen. The status of two of these states requires further explanation. Argentina in May 1991 announced the cancellation of its Condor missile program. Taiwan, in October 1990 announced it would not pursue development of a satellite launch vehicle.

To precisely characterize the nuclear, chemical, biological or missile status of countries other than those named above, inevitably leads into the realm of classified intelligence information. If you so desire, we would be pleased to provide further information on a classified basis, in order to protect intelligence sources and methods.

Senator BINGAMAN. The next panel will be Stephen Bryen, who was in charge of the Defense Department's Export Control Program when he served as Deputy Under Secretary for Trade Security Policy during the Reagan administration. He is now President of Deltatech Corporation; Paul Freedenberg, head of the Commerce Department's Export Control Program as Under Secretary for Export Administration also during the Reagan administration. He is presently a trade consultant with the law firm of Baker and Botts; and Gary Milhollin is a Professor of Law on leave from the University of Wisconsin Law School, and Director of the Wisconsin Project on Nuclear Arms Control.

Thank you all very much for being here, and I think what we'll do here is to just ask each of you to take 5 or 10 minutes and summarize your prepared statement, and then we'll undoubtedly have some questions.

Mr. Bryen, why don't you start.

STATEMENT OF STEPHEN BRYEN, PRESIDENT, DELTATECH CORPORATION; FORMER DEPUTY UNDER SECRETARY FOR TRADE SECURITY POLICY, DEPARTMENT OF DEFENSE

Mr. BRYEN. Thank you, Mr. Chairman. My statement is only 5 or 10 minutes. So I think I'll just work my way through it, if I may.

Senator BINGAMAN. OK. That's fine.

NONCONVENTIONAL WEAPONS

Mr. BRYEN. Mr. Chairman, properly implemented and multilaterally backed export controls can contribute to our national security by limiting the distribution of goods and technologies, which can be used for nonconventional weapons design, development and production.

I'm focusing today largely on nonconventional weapons, and these are, by my definition—and there is no commonly accepted definition—essentially weapons of mass destruction, or weapons that are banned by international law—for example, nuclear weapons; chemical weapons, such as mustard gas, nerve gas, and other agents; biological agents, such as microtoxins, anthrax, and their delivery systems; the missile systems and others, too, can be used for chemical weapons.

CONTROL SYSTEM IS DEFECTIVE

It's clear that a good export control system could be very helpful. The question, of course, is whether we have one here domestically and whether there is one in the broader community of industrial nations that can do the job. I think the answer is there is not, and that the system that we have is defective. That goes for our domestic system, which I'll

focus principally on, but it also applies in even greater measure to the export control systems that our allies use.

You don't have to believe me. I think you can simply look at the record of what happened in the 1980s. Look at both what came out of the United States and, of even greater significance, Western Europe, particularly Germany, that supplied these kinds of weapons technologies and the weapons themselves to Iraq.

EXPORT CONTROL PROBLEMS

The major problems of today's export control system are, and I list them out:

First, the domestic controls, in my opinion, are administered poorly by the Commerce Department. There are really no incentives for the people in the Commerce Department to do a good or effective job of restricting exports. Since it's a trade promotion agency, that's the job they receive kudos for doing. Moreover, there is a conflict of interest. I think it's clear that a trade promotion agency shouldn't be in the export control or restriction business.

Second, there is really little cooperation with either the National Security or enforcement agencies. License applications are not shared fully with any of these agencies. I listened to what the previous witnesses "collegially" had to say, and that's the buzz word in the administration, to be collegial. But the fact is that there are only four countries that the Defense Department is seeing, this list of countries that was referred to. Many of the other countries that are keen on proliferation concern licenses that affect those countries are not being distributed, or shared with the Defense Department, or with the Customs Service or with anybody else for that matter.

Third, many decisions on critical exports are made on the basis of what are called commodity classifications, and these are not coordinated with anybody. In effect, the Commerce Department has the authority to decide whether or not a good, or a technology, or a service, or know-how, or whatever it is, requires a license in the first place. If they say it doesn't, and they have said it in some notorious cases—Consarc, for instance, being one of the most prominent recent cases—then the fact of the matter is there is no license, and the whole thing is moot.

Fourth, there is no effective coordination for us of license applications with intelligence data. Mr. Milhollin will comment on that I think more completely than I, but the fact of the matter is that license applications are not routinely compared to intelligence information.

Fifth, exports of critical technologies to defense ministries, defense manufacturers, and military components outside of the United States—and I'm talking about dual-use licenses—are not in most cases coordinated with the Department of Defense.

On the list of cases that the Commerce Department has published of what went to Iraq, there are numerous licenses that were going to Iraqi defense agencies, the Ministry of Defense in one case, the Iraqi Air Force in another, and the Iraqi Army. None of these were ever coordinated with the Department of Defense, and I think that's true in almost every other instance as well. It seems to me that this is a major loophole in the whole system.

Sixth, rules and regulations, such as the list derived from the Missile Technology Control Regime are really very ambiguous. If you read them, they are full of problems, and they are subject to a wide range of interpretation. That's an important subject and one that the subcommittee ought to look at, but I know that the Administration itself is highly dissatisfied with performance under the MTCR, the Missile Technology Control Regime, because of this latitude for interpretation. Furthermore, the way it has been set up is it only applies to certain kinds of long-range missiles that have a certain kind of payload, and there are all kinds of ways you can finesse that detail if you want to export technology.

Seventh, international cooperation on export controls in the area of proliferation is extremely limited. So far as I know, it doesn't currently include the sharing of information on actual export cases. We know what the British, French, and Germans are exporting, except perhaps through intelligence channels; but they are not routinely sharing that kind of data with us; nor are we sharing anything with them. So we are all playing blind man's bluff.

Eighth, the United States expanded controls, and I think there are some good aspects to the expanded proliferation initiative that are, unfortunately, also unilateral in character. This means that whatever we are doing is not necessarily being done by our allies, which makes the system more symbolic than real insofar as it's going to affect true export regulation.

Ninth, international cooperation on enforcement of proliferation controls is poor. There is no real consensus on enforcement, and it's only in the sense of the events in Iraq that some of our allies are finally beginning to do something in this field—the Germans and the British.

And, tenth, there is no coherent international system to regulate nonconventional weapons proliferation. There are different regimes that you have already discussed this morning; but there is no coherent single organization that focuses all this, and I think that the focus is a very important aspect of the process.

I think all this adds up to a system that really can't do the job.

SUGGESTIONS TO IMPROVE THE SYSTEM

I have three sets of suggestions on how we can help improve the situation, and these are organized under what I call three categories. One

is administrative steps that don't require legislation that can be taken and done now; the second are steps that I think do require some legislative initiatives; and the third is some international action that I think needs to be taken, and I would like to go through these briefly with you, if I may.

PROLIFERATION: A NATIONAL SECURITY PROBLEM

First, I believe that proliferation controls need to be treated as a national security problem and not as a foreign policy export control. This idea of putting our proliferation export controls under the so-called foreign policy regime, I think, weakens it. It is inappropriate and, in any case, raises some serious legal questions and some process questions internally. For example, it's not clear—and I've been told this as recently as this morning—that an objection by the Defense Department on a license that is foreign policy controlled will be accepted in the system by the Commerce Department; and it's still the case today.

LICENSE APPLICATIONS SHOULD BE SHARED

Second, all license applications and requests on commodity classifications simply need to be shared in a timely manner with the national security, intelligence, and enforcement agencies. In other words, whatever is going through Commerce ought to be available to the other Departments without restriction. It's crazy to run a system where everyone else has to wear blindfolds. The Customs Service, which has to do enforcement in this whole area, doesn't see what's going on and has no idea what the Commerce Department is approving. They could very well be approving licenses to a specific company or to a specific target, at the same time the Customs Service is trying to prevent that very transfer.

Why we have a system like this boggles the mind. It's not in our national interest and not in anybody's interest.

COORDINATE WITH DoD

Third, any license to a defense-related end user must be coordinated formally with the Department of Defense. It's outrageous, it seems to me, that goods, technology and services are being provided to Foreign Defense Ministries without the Defense Department even being informed.

DoD DATABASE

Fourth, arrangements should be made immediately for the Defense Department's special database of bad end users—and this is a remark-

able database—to be linked to all transactions on the Commerce Department's computer system. It can be easily done, it would make great sense, and it would be an invaluable service even to the Commerce Department to know if there is a link between an export license applicant and a specific end-use, which is regarded as questionable.

SPECIAL CALENDAR FOR RISKS

Fifth, where a warning is provided—and I provided a few myself during the time I served in the Defense Department—whether or not it's in the proliferation annex by a national security agency, an intelligence agency, or an enforcement agency, there is a proliferation risk; and that license application should be moved into a special calendar under special rules, and procedures used to include full interagency coordination. I have some suspicion, and it's only a suspicion based on experience, that the coordination process is less than what it was represented to you earlier today.

TOUGHER ENFORCEMENT

Sixth, by Executive Order I think the President should demand much tougher enforcement against violators of the proliferation rules. Companies that are involved in violations should be debarred from bidding on Federal projects under the Federal Acquisition Regulations. I mean, there ought to be some muscle in this thing, some serious muscle that creates incentives for companies to abide by the rules.

TRAINING PROGRAM

Seventh, a thorough training program for all Federal Government officials should be started immediately in order to educate these officials on nonconventional weapons risks and threats. I don't think anybody has been trained in the system on this or has the slightest idea what they're looking at, and I think it's about time that that kind of training be provided. It's an inexpensive and very valuable aspect of the process.

HIGH-LEVEL TASK FORCE

Eighth, I believe a high-level task force on nonconventional weapons ought to be organized at the White House level, and it should have responsibility both for policy review and for overseeing the agencies that are implementing the policy.

In the area of legislative action, Mr. Chairman, first I think the Export Administration Act needs to be strengthened to support regulation of nonconventional weapons. We ought to have a special category in the act for that. Serious consideration should be given, and

this is my view, to creating an independent export control agency for administering all export controls, including munitions exports.

The real problem, conflict, if you want, is over jurisdiction between the munitions people and the Commerce people—munitions being in State and commerce being in Commerce—is over what is controlled and how it is controlled. On the one hand, the munitions people can say no and the Commerce Department people can say yes to the same technology. Jet engine technology is one of the classical examples, but that's not the only one, and that's kind of silly. An easier way to handle that is to have one unified system that does the job, and I think the Congress could do that.

Second, the role of the Defense Department, the Customs Service and the intelligence agencies needs to be reinforced with clear, unambiguous legislation. I wouldn't trust anybody. The record is too blurry on all this. The best way to do it is through legislation.

DUAL VETO

For nonproliferation controls to be effective, I believe a dual veto would be appropriate. That is if any two agencies—whether it's Defense and Customs, or Defense and Energy, or Defense and the intelligence agencies—object to a license, that's it, unless the President himself finds reasons and cause to approve that license.

But I think the veto is the only way. It worked very well in the East-West control area. The Defense Department under section 10-G of the Export Administration Act has what amounts to a veto in East-West transfers, and there is not the sordid story that we have to tell about Iraq. There is actually a very good success story in terms of controlling East-West trade. I believe the reason for that is the Defense Department had concrete, palpable leverage over the system and used it. As far as I'm concerned, we ought to do that in this respect if we think the nonproliferation area is of great national concern, as I do in fact.

SANCTIONS

Finally, laws should be strengthened in respect to sanctions against violators. I made this point already. I support import restrictions on foreign companies that are acting aberrantly. I think it will make a difference and it will create good performance.

INTERNATIONAL ACTION

Category three, international action is also needed. A coordinating organization for nonconventional weapons proliferation is urgently needed, and I believe CoCom is the answer. I didn't agree with the comments made by the administration's witnesses in that regard. I think

CoCom can be expanded, and it can do the job. Clearly, it's membership might have to be modified, but you're looking at an agency with 40 years of experience, and to not make use of that seems to me foolish in the extreme. I think the allies won't like it, and there will be a very hard process to get it accepted; but I really believe that without a multilateral control system, this whole exercise in export controls is bound to fail.

CoCOM

I would just like to make another point in regard to how CoCom might go about doing this. I think the way CoCom has been organized up to now has been to target countries. I think the answer here is that instead of targeting countries, CoCom should target the technologies of concern and should regulate them to all nonmember CoCom countries on a case-by-case basis, with the ability to use as appropriate verification in its action. For example, if you look at the Missile Technology Control Regime, and I often get it confused with the Military Critical Technologies List—the acronym is almost the same—it suggests that agreement should be reached and assurances received by governments to other governments receiving these goods and so on. This is a good job for CoCom, and it would assure that the member countries lived up to it. It would also, I think, act as a kind of political force helping some of the weaker sisters in the process in the industrialized countries, and we know who they are, helping some of them live up to our true international requirements. The record on this as far as proliferation is concerned, is that everybody gives lipservice to it and no one really practices this religion. The suggestion I'm making is if we want to practice it, we need a really coherent, focused international group like CoCom to take it as its major responsibility.

So those are the suggestions I have, Mr. Chairman, and I hope they are of some use to the Committee.

Senator BINGAMAN. Thank you very much. I appreciate that.

[The prepared statement of Mr. Bryen follows:]

PREPARED STATEMENT OF STEPHEN D. BRYEN

Properly implemented, multilaterally backed, export controls can contribute to our national security by limiting the distribution of goods and technology which can be used for non-conventional weapons design, development and production.

Non conventional weapons are weapons capable of mass destruction or weapons that are banned by international law. Among such weapons are nuclear weapons, chemical weapons such as mustard gas and nerve agents, biological agents including derivatives of anthrax and delivery systems for such weapons. I would also include hard to detect weapons in this category since these can be smuggled by terrorists and used to cause heavy civilian casualties. An example is plastic explosives.

While well enforced, multinationally supported, export controls can contribute in a positive way to limiting the availability of non-conventional weapons, the export control system we now have is not doing the job.

The major problems of today's export control system are:

- (1) domestic controls are administered poorly by the Commerce Department without incentives to do a good, effective job; moreover the Department's trade promotion responsibility is a serious conflict of interest;
- (2) there is little cooperation with either the national security or enforcement agencies; license application information is not shared fully with any of these agencies;
- (3) many decisions on critical exports are made on the basis of so-called commodity classifications and without coordination with other agencies --this includes cases like the Consarc furnaces;
- (4) there is no effective coordination of license applications with intelligence data;
- (5) exports of critical technology to Defense Ministries, Defense manufacturers,

and military components outside of the United States are not, in most cases, coordinated with the Department of Defense;

(6) rules and regulations, such as the lists derived from the Missile Technology Control Regime, are ambiguous and subject to a wide range of interpretation;

(7) international cooperation on export controls is very limited and does not currently include the sharing of any information on actual export cases and export decisions;

(8) U.S. expanded controls are, for the most part, unilateral in character;

(9) international cooperation on enforcement of proliferation controls is very poor;

(10) there is no coherent international system to regulate non-conventional weapons proliferation.

All of this adds up to a system that does not work and does not serve the national interest. Unless something is done, the danger will grow that an unstable country or terrorist group will acquire non-conventional weapons and use them.

I propose a series of steps that, if taken, will progressively improve on the current situation in respect to export controls. These steps are divided into three categories. They are: (1) immediate administrative steps that the President can implement without legislation; (2) steps that will require legislative reinforcement; (3) concrete international action.

CATEGORY I: ADMINISTRATIVE STEPS

The following administrative steps are essential to strengthen controls on non-conventional weapons.

(1) Proliferation controls need to be treated as national security, not foreign policy, export controls. Considering proliferation as a foreign policy control suggests we are not serious about such controls or that we will change our minds as our policy changes. Furthermore, the administering agency, the Department

of Commerce, continues to use this distinction as a means of excluding the Defense Department from coordination on licenses;

(2) All license applications and all requests for advice on commodity classifications needs to be shared in a timely manner with the national security, intelligence and enforcement agencies. Information can be shared electronically so as not to delay export license and commodity classification processing;

(3) Any license to a Defense related end user must be coordinated formally with the Department of Defense; it is outrageous that goods, technology and services are being provided to foreign Defense Ministries without the Defense Department being informed;

(4) Arrangements should be made immediately for the Defense Department's special database of bad end-users be linked immediately to all transactions on the Department of Commerce's computer system;

(5) In any case where a written warning is provided, whether or not is in the Annex, by a national security agency, intelligence agency, or enforcement agency that there is a proliferation risk, such license application should be moved to a special calendar and special procedures including full interagency coordination should be implemented to assure that these concerns are properly addressed;

(6) By Executive Order the President should demand much tougher enforcement of the export control laws including prosecution; companies that violate export controls should be debarred from bidding on Federal projects under the Federal Acquisition Regulations;

(7) A thorough training program for all Federal government officials should be started immediately in order to educate these officials on non-conventional weapons risks and threats;

(8) A high level Task Force on non-conventional weapons should be organized at the White House level and should have responsibility for (a) policy review and (b) oversight of the administering agencies.

CATEGORY II: LEGISLATIVE ACTION

(1) The Export Administration Act needs to be strengthened to support regulation of non-conventional weapons. Serious consideration should be given to creating an independent export control agency for administering all export controls, including munitions exports;

(2) The role of the Defense Department, Customs Service and Intelligence Agencies needs to be reinforced with clear, unambiguous legislation. For non-proliferation controls to be effective, serious consideration should be given to a "Dual Veto" over license applications. If two agencies object to a transfer, then the Commerce Department cannot approve the license unless the Commerce Department refers the matter to the President and the President decides to approve the transfer because he judges it to be in the national security interest to do so. The participating agencies in the process would include: (1) the Department of Defense; (2) the Treasury Department, Customs Service; (3) the Department of State; (4) the Department of Energy and (5) the intelligence agencies as represented through the Technology Transfer Intelligence Committee;

(3) Laws should be strengthened in respect to sanctions against violators of export controls, to include foreign companies; violators can be placed under sanctions including import restrictions, restriction or debarment from Federal procurement (by strengthening these provisions of the FAR); penalties increased if companies knowingly misrepresent end use and end user information;

CATEGORY III: INTERNATIONAL ACTION

(1) An international coordinating organization for non-conventional weapons proliferation is urgently needed and the best candidate for such a task is the Paris-based Coordinating Committee for Multilateral Export Controls, popularly known as COCOM;

(2) Controls need to be aimed at all non-member countries and not at specific countries because of the inherent political problems associated with identifying specific target countries;

(3) Controls should include origination of a coherent, unified control list and coordination on export license cases for the most sensitive technologies on the

list;

(4) the coordinating organization should be able to conduct verification and inspection as required to achieve balanced results;

(5) the current membership of the coordinating agency should be enlarged, perhaps to include OECD member countries for the administration of proliferation-related controls;

(6) international enforcement agreements for proliferation need to be strengthened based on an emerging multilateral consensus.

Of all the suggestions, none is more important than making the control regime truly multilateral in character. This means much more than reaching agreement on lists that member countries are free to administer on their own.

As the recent Iraq example indicates, the idea of each nation "doing its own thing" is a disaster from the point of view of effective controls.

From experience, multilaterally administered controls on the COCOM model are effective because they set a performance standard that is levied equally and in a non-discriminatory way on all participating states. Such a standard and the need to comply leads to the result that national export licensing systems are under scrutiny if they do not perform. Because there is rarely an effective national lobby for export controls, a solid multinational system becomes the pressure point on states as well as on domestic agencies for coherent, reasonable performance. Furthermore, the existence of international obligations creates a responsibility and deters efforts domestically to weaken the control apparatus for economic or political reasons.

COCOM is the right agency for this purpose if it is given the mission to perform. The most important reason is that over the last forty years COCOM has developed internal procedures and concrete methods that are as applicable to the proliferation problem as they were to the West to East technology control system.

Senator BINGAMAN. Mr. Freedenberg, why don't you go ahead.

**STATEMENT OF PAUL FREEDENBERG, INTERNATIONAL TRADE
CONSULTANT, BAKER AND BOTTS; FORMER UNDERSECRETARY
FOR EXPORT ADMINISTRATION,
DEPARTMENT OF COMMERCE**

Mr. FREEDENBERG. My prepared statement is more than 10 minutes, so I'll summarize it. Also, since the hour is short, I would like to make some quick responses to the comments that were made about the interagency process and policy, and I'll make those very brief as well.

COMMERCE'S ROLE

Commerce was recognized as a trade promotion agency in the Export Administration Amendments Act of 1985. That's why they created a separate BEA (Bureau of Export Administration) and gave it the sole responsibility of export controls. So, that's essentially the congressional answer to that question.

I wrote the foreword to Senator Heinz' book that calls for a unified export control. I endorse Mr. Bryen's suggestion in that direction, and Senator Heinz' ideas are laid out in great detail in his book.

COOPERATION AMONG AGENCIES

But with regard to the argument that there is little cooperation among national security agencies—of course that has improved in the current administration—I would note that while I was the Under Secretary and actually before as the Assistant Secretary, I made sure that the intelligence agencies did get to see all licenses. There is a filter against all, so to speak, bad guys, and that's up to date and continual.

So there is not a problem of old intelligence data, or of information that is out of date, or is not filtered. Within that context, Consarc was almost approved by the Commerce Department. But it had been previously approved during the process by the Defense Department twice, because they had the same problem the Commerce Department had, poor intelligence. The intelligence agencies have to be able to get that information out. Defense does have the Defense Intelligence Agency, which is part of the overall intelligence system, but it doesn't have anything special beyond that. It has to rely on the same intelligence that Commerce relies on, and when that intelligence came forward, the license was suspended and the shipment was on the dock. I would agree that was a very close call, but again that's an intelligence failure. If there was something about the device itself that made it obvious you shouldn't license it, it wouldn't have been approved in its

two earlier phases—the machine tools and the computers associated with that. I mean, that case shows why we do need better intelligence.

Customs can look at anything that it is investigating. It does not have the right to filter every single license that goes through the Commerce Department, but anything under investigation, any company that it is looking at, it has the right to investigate licenses and it can inform. There is full cooperation in that area, or at least there ought to be full cooperation.

We did have a system for escalation on issues such as Iraq in the previous administration. That was used infrequently obviously. I have said this in interviews that I've had in Time magazine, for example, that we should have done a better job; and there should have been a better understanding of what Saddam Hussein was up to, but it wasn't as if the system was simply inadequate. It was really more of a judgment about Saddam Hussein and his intentions.

I would be happy to answer questions further, but let me quickly go to the proposal that I put in my testimony.

MUCH MORE NEEDS TO BE DONE

I argue that the Bush administration has committed itself to the prevention of the proliferation of weapons of mass destruction, and it has a number of good programs underway, including the Enhanced Proliferation Control Initiative. However, I argue that much more needs to be done in the near future, and that I'm not sure that we will have the international structures in place to achieve the end that President Bush so desires, and I have some suggestions.

CoCOM

I ran through in my prepared statement the various control regimes that exist, and the evolution of those regimes. I won't go into detail on that at the present time, except to say that in some regimes we have a situation in which our European allies, including the French, have been most vociferous but not alone in this area, and have objected to using CoCom as a political instrument as a foreign policy instrument. That's the great difficulty we have in using the CoCom structure for export controls.

I would agree with Mr. Bryen that it was a success with the Soviets, and I would go on to point out that one of the reasons that we were so successful in the Persian Gulf war was because CoCom had been so effective. Luckily the Iraqis depended most heavily on Soviet weapons systems, which, because of an effective CoCom, were essentially a decade to a decade and a half behind their American or Western counterparts. That's why we were so dominant and overwhelming.

My point would be that we need to look at the current system of controls and essentially go along with the suggestion of the European Roundtable, which suggested that CoCom lists will continue to make sense only if they are applicable internationally without the notion of a specific adversary. We've overemphasized the Soviets and the Chinese.

CoCOM AND PROLIFERATION

However, within the current CoCom we are not going to be able to deal effectively with proliferation because, first of all, our allies don't want to use CoCom for that purpose. Second of all, one of the major problems in proliferation is getting the cooperation of the Soviets and the Chinese, which you pointed out earlier. So my suggestion is for a new essentially non-CoCom CoCom that we could housed in Paris. What you really need is a stronger secretariat place where you could have on the CoCom model ongoing meetings, and a strong central administration. I suggest with that you could get not only the cooperation of the Soviets and the Chinese, who would be much more willing to cooperate with such an institution if it were not CoCom itself; but you could also get better cooperation out of the neutral countries of the world, who would also be very uncomfortable about joining the CoCom structure itself if it took on proliferation. So my suggestion is to create this new non-CoCom CoCom domiciled in Paris. It would have not only the advantage of having Soviet and Chinese participation, but it would also be able to adjudicate disputes, be a place for exchange of some intelligence, even if it were done on a bilateral basis. We might not want to share all of our intelligence with potential adversaries, but we certainly could have it as a meeting place where intelligence could be shared, and it could also deal with dispute resolutions.

A SUPER INTERNATIONAL PROLIFERATION REGIME

Another major point that I have is that it's very hard to deal with proliferation, because we don't agree with our allies on what the foreign policy ought to be toward certain countries. We are close with Israel, but Israel is on some lists for nonproliferation controls. We have had differences in the past with the Italians over Libya, the French over Iraq, and Japan over Israel. We can't agree necessarily on who the controls should be targeted at, but if we had a central organization, we could at least have a stronger administration of the list itself. We could have a better discussion about whether a particular project was of concern and the intelligence could be brought forward for that argument. So my suggestion is that if we are going to continue to rely on the current, what I call, melange of proliferation regimes, we are going to have problems; particularly after this year is ended, and the enthusiasm and initiatives of the Bush administration connected with Iraq have

dissipated, and we have in place control regimes that are essentially gentlemen's agreements with no central administration of them, infrequent meetings, and sometimes contradictory control regimes themselves. So I would say the best thing we could do, particularly to deal with the threats of the 1990s, would be to create a super and consolidated international proliferation regime.

That concludes my remarks.

Senator BINGAMAN. Thank you very much.

[The prepared statement of Mr. Freedenberg follows:]

PREPARED STATEMENT OF PAUL FREEDENBERG

Mr. Chairman, members of the Committee, I appreciate the invitation to testify today on what I consider to be one of the critical issues of the 1990s. It is clear that the prevention of the proliferation of weapons of mass destruction is the most important issue facing the United States and its allies today. It is certainly among the greatest threats to peace during the coming decade, as more and more Third World countries gain access to advanced technology and seek to cope with their security threats by the development of weapons of mass destruction. For example, the threat that Saddam Hussein might have used such weapons greatly complicated the military planning for the Gulf War.

President Bush has committed his administration to the prevention of the proliferation of weapons of mass destruction and the Administration has already inaugurated a number of programs toward that end, including the Enhanced Proliferation Control Initiative. Nonetheless, there is much that needs to be done in the near future, and I am concerned that the international structures will not be in place to achieve the end that President Bush so greatly desires. Today I would like to talk about some of the problems that I see on the horizon and make some suggestions with regard to improvements that might be made in the international regimes dealing with non-proliferation.

In the face of formidable challenges, CoCom is in the process of adapting itself to the new East-West strategic environment. On May 23, 1991, the U.S. and its allies are scheduled to meet in Paris in order to ratify the new "Core List" of strategic technologies and commodities that will comprise the universe of embargoed products on which the Western allies will focus for the rest of this decade. As the list of embargoed products to the East diminishes, the U.S. and its allies' attention is likely to be drawn

increasingly to issues with which CoCom was not designed to deal -- the so-called "North-South" issues: preventing the proliferation of the capability to manufacture nuclear and chemical weapons and the means to manufacture the systems to deliver such weapons with ballistic missiles.

It could be argued that CoCom is increasingly becoming irrelevant to the major security threats of the 1990s. Since the autumn 1989 revolutions in Eastern Europe and the sharp diminution of the Soviet threat to the West, a number of critics have argued that CoCom lists will continue to make sense only if they become applicable internationally and move away from their unique focus on the Soviet Union and the People's Republic of China.

Having a smaller Core List will be a step in the right direction, but there is a formidable route to follow from there. That is not to say that there are no international initiatives underway to cope with the problem. Proliferation regimes do exist to deal with the threats facing the developed world.

There is general agreement in CoCom (and the world community, as evidenced by the Nuclear Non-Proliferation Treaty) on the need to prevent the spread of nuclear weapons technology. Indeed, there is a specific CoCom embargo list to deal with this problem -- the Atomic Energy List -- the original focus of which was the Soviet Union and other proscribed communist destinations. It was originally conceived in the 1950s as a strategic list to prevent the sale of such technology to the East. Thus, it was a counterpart to the CoCom "Munitions List" and the dual-use "International List." But, by the 1960s, the Soviets possessed most of the technology on the CoCom Atomic Energy List, and it became more of a guide to its member countries as to what not to sell to developing countries. It evolved, thereby, into a North-South control list within CoCom, without any formal acknowledgement, and took its place alongside the Zangger List, the

London Suppliers List, and the guidelines of the International Atomic Energy Agency as non-proliferation guides for sales worldwide, not just to the East.

By the early 1980s, however, it became clear that new threats were challenging the United States and its CoCom allies. Intelligence agencies reported that friendly as well as unfriendly developing countries were in the process of equipping themselves with ballistic missile capabilities. The list included such diverse countries as Egypt, Brazil, Argentina, Libya and Iraq. To counter this threat, the Reagan Administration began an intense effort to bind the major industrial powers in the West to a new regime aimed at stopping the proliferation of ballistic weapons capability. This culminated in the signing of an agreement in April 1987 among the major Western countries that could produce missiles, the United States, France, Great Britain, the Federal Republic of Germany, Italy, Canada, and Japan. The agreement became known as the Missile Technology Control Regime (MTCR). Since that time, eight new members have joined, bringing the total to 15 members. That regime is separate and apart from CoCom, because the French Government, among others, objected to any new set of controls that would change the focus of CoCom from a strategic East-West organization into a political North-South organization. Nonetheless, the MTCR currently includes all the major CoCom members and does serve the function of preventing missile technology related sales to non-CoCom countries. It is enforced by means of special foreign export controls enacted into the MTCR by the signatory Governments. Although they are not CoCom controls, they are enforced by the very same export control authorities, and are published as addenda to the CoCom regulations themselves.

A similar effort was undertaken to control chemical and biological weapons technology in 1987, after the first use of chemical weapons during the Iran-Iraq war. This time it was the Australians (with the strong support of the U.S. Government) who

took the lead. At first the group was rather small, informal, and *ad hoc*, meeting in the Australian Embassy in Brussels to exchange information about specific chemical shipments that might be used as precursors to chemical weapons in countries attempting to develop such capabilities. But it soon became clear that the spread of such weapons could only be prevented by a more organized effort among the industrialized countries of the world. The discovery, early in 1989, of the construction of a chemical weapons facility in Rabta, Libya, built by the Imhausen Company of the FRG, caused great embarrassment to the West German Government. It spurred the convening in Canberra, Australia in September 1989 of a major conference on preventing chemical weapons proliferation, under the auspices of the Australia Group, bringing together both the major chemical companies and their host governments.

Even before that conference, during 1988 and 1989, the major chemical producing countries had agreed to monitor chemicals that could be used as chemical weapons precursors and to block the shipments of such chemicals to countries suspected of diverting them into chemical weapons. In February 1989, under the foreign policy authority of the Export Administration Act, the United States Government published a list of 11 chemicals that would require a license since they could be chemical weapons precursors. Other governments followed suit during that year, particularly after the Canberra Conference. Additional governments also joined the Australia Group, and as of now the membership totals 21 countries.

Once again, this effort took place outside of CoCom. French objections to using CoCom technology controls as a means of enforcing the foreign policy of the Western industrialized countries upon the less developed world had the tacit support of other European CoCom members. While all agreed that the goal of preventing chemical weapons proliferation was worthwhile, indeed absolutely necessary, there was resistance

to utilizing CoCom for this purpose and to creating a more formal secretariat to administer the business of the Group.

Another issue that has been handled outside of CoCom has been that of special security arrangements for super-computers. This became a problem in 1982, when Japanese manufacturers such as Fujitsu and Nippon Electric Corporation began to produce computers approaching the speed of the U.S. manufacturers of super-computers, IBM, Cray Research, and Control Data. That speed was 150 megaflops, or 150 million floating point mathematical calculations per second. The U.S. Government was concerned because such computers are particularly useful for engineering calculations in areas such as nuclear and ballistic missile design, and in such military research as code breaking.

The problem with super-computers, which is unique to these devices, is that the concern is not just that of the machine itself falling into the wrong hands, as with all previous technology transfer problems. Rather, the more immediate concern is that of unauthorized access and use. Since these machines can be used for sophisticated missile and nuclear design work, or code-breaking, simply having unrestricted access to the machine itself, without relocating it to any new site, is enough to allow the diversion of the product of the machine to a hostile use. To prevent this, in 1984 both the U.S. and the Japanese governments informally agreed to require both the vendor and the host government of a super-computer buyer to be responsible for enforcing a strict security regime to ensure restricted access to the machine. Licensing restrictions included conditions such as restricted networking, passkey access to terminals, restricted software, monitored computer logs, the banning from access all communist country nationals, and a number of other highly restrictive security arrangements were designed to ensure not only that Soviet Bloc access was prevented but also that the machine could not be

diverted in place -- even by the host country itself -- to nuclear or ballistic missile design purposes. This allowed super-computer sales to companies and agencies in third world countries such as Brazil, India, and Indonesia. But it also obliged such close allies as Britain, France, and the FRG to enforce strict security regimes on super-computers in their countries not only on an East-West basis but also on a North-South basis.

This binational security regime was successfully enforced in the 1980s, but the 1990s are likely to see a greatly increased number of computer makers in the West capable of producing super-computers. The new reduced instruction microprocessors such as those made by MIPS, Hewlett-Packard, and Intel, have facilitated the growth of this industry through the use of massively parallel processing; that is, the stringing of a series of microprocessors together in a single unit to break a problem into component parts and solve that problem simultaneously in discreet pieces. The computer then reassembles the result into an answer. All this is accomplished within microseconds. The new machines are far smaller and less cumbersome than the large mainframes of the 1980s. Indeed, some of them are microcomputer-size.

Undoubtedly, this will greatly complicate efforts to tightly control such technology. Already, companies in the U.K., Germany, and France are marketing, or planning to market, machines approaching the U.S and Japanese threshold for super-computer definition, 150 megaflops, without requiring special security regimes. Moreover, the super-computer agreement remains informal and binational at a time when this issue is increasingly serious and multinational in its nature.

What is to be done to deal with this new strategic environment? In a report issued in March 1990, the European Round Table (comparable in membership to the American Business Round Table, with the Chief Executive Officers of the larger corporations comprising its executive council) argued:

CoCom lists will . . . only continue to make sense in our changing world if they become realistic again, i.e., applicable internationally without the notion of any specific potential adversary.¹

As Saddam Hussein amply demonstrated with his attack on Kuwait and his use of ballistic missiles, plus his threat to use chemical weapons immediately and possibly nuclear weapons whenever they became available to him, threats to Western security no longer follow the pattern of the Cold War. The origins of the new threats are likely to be regional, but that does not make them any less dangerous. They can, of course, be made less deadly if nuclear, chemical, and missile technology transfer controls on exports to the Third World succeed. That is what the European Business Round Table was alluding to in its admonition to make CoCom lists "applicable internationally without the notion of any specific potential adversary."

The trick for CoCom will be to get from where it is on the East-West axis to where the European Round Table thinks it ought to be on the North-South axis. The fundamental obstacle is that North-South technology transfer is based more on the foreign policy goals of particular countries than on national security of the CoCom countries as a whole. For example, the United States differs from Japan on its policy towards Israel. In the recent past, it has differed with France over Iraq, Germany over Iran, and Italy over Libya. Similar differences exist among those countries with one another. If the members of CoCom cannot agree among themselves who the "bad guys" are, how are they ever going to get together to enforce an equally stringent technology transfer policy regarding these "target" countries. In the absence of stringency, however, key components or chemicals are likely to leak through.

¹European Round Table of Industrialists, European Industry and CoCom (Brussels, March 1990), p. 12.

The best that can be hoped for in the short run is that the members of the various nuclear, missile, and chemical control regimes adhere to the rules of those regimes and that new members are added to the regimes as they develop the key manufacturing capabilities.

Interestingly, in order to ensure that the missile technology and chemical weapons non-proliferation regimes succeed in their objectives, it will be necessary to have the cooperation of both the Soviet Union and the People's Republic of China. These countries, however, are far less likely to cooperate if the regimes reside within the structure of CoCom – an organization created to thwart their objectives. Similar problems would exist for Switzerland, Sweden, and other neutral and non-aligned countries, if the foreign policy component of these control regimes becomes obvious, although in recent years most of the industrialized, non-aligned countries have been quite willing to cooperate with CoCom. They have viewed its control regime as strategic in nature, not political. The prospects are not good, therefore, for CoCom to be able to count on the cooperation of industrialized non-CoCom members if it added a North-South dimension to its control agenda.

Clearly, the control of nuclear, chemical, and missile technology is going to be much more difficult and complex in the 1990s than it has been for the previous 42 years of strategic East-West CoCom controls. As long as proliferation controls do not extend to all countries able to produce chemical, biological, missile, or nuclear technology, and as long the controls are administered by the member states under one or more of the "gentlemen's agreements" that have come into existence in recent years, the controls are likely to be applied episodically and unevenly. The current enthusiasm and high-level commitment among key Western leaders, such as President Bush, will send a strong anti-proliferation message around the world. But I fear that unless

concrete actions are taken this year to strengthen the current control regimes, add new members, broaden the commitment to compliance, and strengthen or unify the secretariats, the current efforts to achieve effective controls against the proliferation of weapons of mass destruction will fail.

Probably the most effective action that could be taken in the near term would involve U.S. Government leadership in the creation of a new, consolidated anti-proliferation organization, with a strong central secretariat domiciled in Paris.

The current mélange of non-proliferation regimes are confusing and potentially ineffective. They are confusing because there are so many of them, each with its own set of suggested prohibitions to be enacted above and beyond the CoCom regulations. They are potentially ineffective; because, for example, in the case of the Australia Group there is a high degree of variance in the enforcement of the controls against sale of prohibited chemicals and manufacturing technologies by the member states. In the case of the MTCR, there is no authoritative secretariat to resolve differing interpretations of the control list, and the United States has consistently been more stringent in its interpretation of what technologies and products belong on the list than other members.

In the absence of a strong secretariat to facilitate discussion of policy differences among members, to make binding rules, and to offer technical assistance, the member states are left to their own devices and interpretations regarding the informal agreements reached at the infrequent plenary meetings. Some countries do not even have the legal authority to enforce the agreements, even if they wanted to. Moreover, with the Soviet Union and the People's Republic of China outside the membership circle, compliance and cooperation by these scientifically sophisticated super-powers can only be obtained through pleas and démarches by the United States and other major

industrialized powers. Obviously, such bilateral efforts are likely to be successful only infrequently.

Ultimately, any export control regime is only as good as its weakest link, and no one would argue that the current non-proliferation regimes are without weak links, with the possible exception of the nuclear regime. I would argue that a consolidated non-proliferation regime would have a number of advantages over the current multiplicity of regimes. First, a single, unified regime would be an important symbol of the commitment of the industrialized world to oppose the proliferation of weapons of mass destruction. Second, a consolidated regime, with a single strong secretariat, could clear up a good deal of the confusion inherent in today's loose combination of regimes. Policy issues could be debated and resolved, with an authoritative secretariat writing guidelines and authoritative lists of controlled products and technologies. Third, many countries do not have sufficient numbers of experts, technicians, and trained international representatives to staff all the meetings of all the controls regimes plus CoCom. With a single, consolidated non-proliferation regime, experts and national delegates could handle more than one issue across a broad number of categories at the same meeting. Moreover, if the new organization were domiciled in Paris, it would allow experts to be available to both the non-proliferation organization and CoCom meetings without extensive travel. Thus, smaller countries could get maximum benefit out of limited expertise and representation. Finally, a new non-CoCom proliferation organization could actively seek the membership of both the Soviet Union and the PRC, since it would be separate and distinct from CoCom and its anti-East-West technology transfer image. Neutral and non-aligned countries would also be more comfortable as participants, since the East-West conflict would not be relevant.

As I have argued, a new consolidated non-proliferation organization would have a number of symbolic and substantive benefits. It would not, however, resolve the question of exactly which countries the new non-proliferation organization would be targeting with its controls. That would most likely be an issue of continual controversy within the organization. But even if that question is not answered in most cases, there would still be great benefit to the exercise. First, it would provide an authoritative list of licensable products and technologies. That, in itself, is important to the United States and its industry, since it would tend to bring other industrialized countries up to the standards that we are already unilaterally imposing on our companies. Second, it would provide a forum for intelligence exchanges about suspect projects and emerging technologies. Finally, it could be an important forum for dispute resolution, particularly when one country accuses another of unfair targeting or non-compliance with the guidelines of the organization. Such disputes are inevitable with such a complex, technical agenda, and they need to be resolved quickly and fairly if the organization is to survive.

As I have argued, proliferation is likely to be the thorniest and most dangerous issue of the 1990s. President Bush has made a good start towards bringing this problem under control, but in the absence of innovative and far-reaching new structures to deal with the challenges facing us, we may see the current momentum lost and the threat persist. Strengthening the current non-proliferation regimes is a useful short-term measure, but any long-term solution to the problem must involve significant membership-broadening and consolidation of the current structures.

Senator BINGAMAN. Mr. Milhollin, why don't you go ahead.

**STATEMENT OF GARY MILHOLLIN, DIRECTOR, WISCONSIN
PROJECT ON NUCLEAR ARMS CONTROL**

Mr. MILHOLLIN. Thank you, Mr. Chairman.

I would like to discuss three topics today. First, the record of U.S. exports to Iraq; second, the Bush administration's response to the record; and third, recommendations for improving this system.

EXPORTS TO IRAQ

First, I would like to take issue with some of the things that the Government panel said. The Government panel said that we did not supply a single weapon to Iraq. In fact, what we supplied to Iraq were the means to make weapons, which is obviously much more serious than supplying a weapon, only one weapon. We were supplying in effect the infrastructure that supported weapon-making factories. For example, we supplied quartz crystals to make early warning radars. It seems to me that an early warning radar is a weapon, or at least it supports the use of weapons. We supplied machine tools and lasers for making rocket bodies to Iraq. I can't prove this, but I think it's at least possible that U.S. equipment was used to improve the range of the SCUD's that were fired in the war, one of which, as we know, killed some of our troops.

The Government's argument that if Iraq had depended upon us alone for its arms, it would not have been strong is what I call the Julius Caesar argument. That's the argument made by one of the conspirators who stabbed Julius Caesar. He says, "it wasn't really my wound that did it, it was all those other guys. If only I had stabbed Julius Caesar, he would be alive today."

In fact, a lot of countries were supplying Iraq, and all of them are guilty, including us. The fact is that we sold the Iraqi Air Force 57 million dollar's worth of equipment, which included navigational radar and communications gear, computers, helicopters, and oscilloscopes. That's the Iraqi Air Force. To the Ministry of Defense we sent 2.1 million dollar's worth of high-tech exports, including computers, compasses, gyroscopes, and accelerometers. We also sold the Iraq Ministry of Defense navigational radar and communications gear. It seems to me that in light of these exports—and I'll talk more about that in a second—it's not fair nor accurate to say that we didn't supply a single weapon to Iraq.

I would like to talk about a couple of particular export cases, which I think illustrate the problems that we've seen in our export control system.

MILITARY REPAIR APPLICATIONS

The first case had the following end-use statement—actually it was two cases—"general military repair applications, such as jet engines, rocket cases and so forth." These exports were approved January 20 and February 10, 1988. The first was for precision machine tools, and the second was for lasers. Together they are valued at \$1.4 million.

The Iraqi buyer was a procurement agency for the Iraqi SCUD Missile Enhancement Program. It also was a procurement agency for, and it ran, Iraq's missile and chemical weapon production programs. It also was involved in the nuclear effort in Iraq, and it even was trying to buy some of the equipment for the Iraqi supergun.

The end user was listed on the application as the Nesser Establishment for Mechanical Industries, also known as the Nassr State Enterprise for Mechanical Industries. That is, we have right on the application a dirty or bad end user, and we have right on the application the fact that this equipment is going to be used to make rocket bodies.

Repairing rocket bodies obviously includes reworking SCUD missile bodies so they can fly far enough to do the damage we saw in the Persian Gulf war—far enough to strike Tel Aviv, and far enough to strike our soldiers sleeping in their bunks. Who was the exporter of this equipment? Answer, a German company for some reason exporting from the United States.

In 1983, the Germany company first broke into the news. The German press revealed that the company was in trouble with German Customs. It was being investigated for shipping to Pakistan through a French subsidiary equipment for making nuclear weapon fuel. This was in 1983. In 1987 there was a second string of press reports. This time the firm was being investigated for smuggling blue prints for uranium enrichment to Pakistan through Switzerland. Another German firm was suing this firm for stealing the blue prints from it. According to a German official, the evidence against this company was very incriminating.

So all this happened and was reported in the press before December 1 and December 22, 1987, when the company applied for its U.S. export licenses. It took the Commerce and Energy Departments only 2 months to approve the first application and less than a month to approve the second. Neither case was referred to the State Department or the Defense Department. So we have a case in which we have a notorious exporter already guilty of diversions. We have a bad end user in charge of missiles, and nuclear and chemical weapon production in Iraq; and we have a bad end user right on the application. And despite all this, the export went out in record time. I think it's inconceivable that a rational export control system could produce this kind of a result.

RADAR

I would like to talk about one other case. I would like to talk about radar. In January 1988, the Commerce Department approved over 2 million dollar's worth of quartz crystals for two Iraqi users—first, the Iraqi Trading Company and second, the Salah al Din establishment. What was the end use for these quartz crystals? The end use was components in a ground radar system. These were not garden variety quartz crystals one assumes. These were special quartz crystals that measure time very accurately and that were on the commodity control list, or otherwise a license would not have been necessary. In fact, these quartz crystals were missile-tech items. They fit the definition of a missile-tech item on the commodity control list, and would normally be required to go through the process set up for interagency evaluation of such an item. In fact, the item was also exported in record speed, and it contradicts Commerce's statement that no license applications for any MTCR item has been approved for export to Iraq. That's simply not true. This was a missile-tech item, it was approved, and it went right into a ground radar system.

FREQUENCY SYNTHESIZERS

To go along with these quartz crystals, Iraq also bought what are called frequency synthesizers. The same buyer, Salah al Din, declared the following end use: "To calibrate, adjust and test surveillance radar." That would include radar used as ground support for missiles capable of delivering nuclear weapons. This item, too, was on the missile-tech list. Commerce did not reject this case either or refer it to the State Department as a missile-tech item. It approved it in only 19 days, announcing that it was "not restricted for MTCR, chemical, biological, or nuclear nonproliferation."

Who was the buyer? The Salah al Din military establishment was in fact a military electronics factory built by the French company, Thomson-CSF. This factory manufactured three-dimensional, early warning radars, and there is some evidence that it may have made components for missile guidance and radar jamming equipment.

So those are a couple of cases. My project is analyzing the exports that have been made to Iraq, and we hope to have a report ready within a couple of weeks, which we will supply to the subcommittee. The subcommittee may wish to make it part of their record.

Senator BINGAMAN. We would be glad to receive the report and make it part of the record.

Mr. MILHOLLIN. I have some other comments. I'll try to make them brief.

SA'AD 16

The Commerce Department was also informed in November 1986 about a large site called Sa'ad 16, and it was informed at that time that Sa'ad 16 was being put together by a group of companies or a group of entities. The first was called the Sa'ad General Establishment; the second was called SOTI; and the third was called the Research and Development Center. Commerce was notified that all of these entities were building missiles in Iraq in November 1986. It was notified, according to the General Accounting Office, by the Pentagon, which sent the Commerce Department a letter. Nevertheless, after that time all three of these entities received important and valuable U.S. exports. All of these entities were in fact bad end users, and all of these entities shoveled these U.S. exports straight into Iraqi missile production. Commerce had full authority to reject all of these applications, but did not despite the knowledge that Commerce had.

According to U.S. officials, briefings by the CIA and other intelligence agencies began in 1987—that is, briefings for other agencies—and these briefings continued throughout 1988. In early 1989, I am informed the CIA called all of the agencies concerned with exports to Iraq together for a large meeting in Langley. I'm also informed that the Commerce Department refused to attend on the ground that its judgment might be "contaminated." You might inquire as to whether that's true.

ENHANCED PROLIFERATION CONTROL INITIATIVE

I would like to end there with my comments about the record of the administration, and if you will indulge me, I would like to make some comments about the administration's response. I would like to make a comment about the Enhanced Proliferation Control Initiative first.

The Initiative started its career in an announcement in which the President also announced that he had just approved the export of three supercomputers—well, two supercomputers and one near supercomputer. The first supercomputer went to India to an institute that is doing rocket research for the Indian Government. The second supercomputer went to Brazil, or is going to Brazil, to an aircraft company that has helped Iraq develop long-range missiles and that also shares personnel with Brazil's main missile research center. The third computer, which is a near supercomputer, is going to China apparently in spite of China's help to Algeria, its missile trade with Pakistan, and its human rights record.

So that's how the Enhanced Proliferation Control Initiative started its career. It's important to realize what the Initiative does not do. It does not change the way we review or license exports. It simply adds some chemicals and equipment to the control list. It authorizes the Government to stop an export if the Government finds out it's going to be diverted through some, I guess, fortunate development in intelligence,

but that's all it does. It doesn't change the system that has produced the exports I have just described.

I have three recommendations for making things better.

REMOVE DUAL-LIKE LICENSING FROM COMMERCE

First, I think Congress must take dual-use export licensing away from the Commerce Department and put it in the hands of the national security establishment. This could be done by putting it in the Pentagon in a special bureau, which I think would be the best solution. The Pentagon already has the expertise and it could increase its staff to the extent that it doesn't have the expertise it needs.

MORE CONGRESSIONAL OVERSIGHT

The second thing I recommend is that Congress itself begin to oversee this process closely. I recommend that this subcommittee or some other committee of Congress establish a special oversight function for exports, and that committee should provide itself with the staff and the expertise necessary to oversee the U.S. export process on a continuous basis.

LESS SECRECY

The third thing I recommend is that this process be pushed out into the light of day. It now happens in secret. I think the single most important thing Congress could do would be to pass a law making this process as open as the nuclear licensing process done by the Nuclear Regulatory Commission. We should be able to find out 3 months after a license is granted, who the exporting company was, what the product was, who the end user was, what the end-use was, what the value was, and why it was approved. I urge you to do that. I think that's the most important single thing Congress could do. If a company is ashamed of having sold something to a developing country, then it shouldn't have sold the product in the first place.

[The prepared statement of Mr. Milhollin, together with a report, follows:]

PREPARED STATEMENT OF GARY MILHOLLIN

I am pleased to have this opportunity to appear before the Subcommittee on Technology and National Security of the Joint Economic Committee.

I am a member of the University of Wisconsin Law School faculty and director of the Wisconsin Project on Nuclear Arms Control in Washington, D.C., a project devoted to slowing the spread of nuclear and other weapons of mass destruction to developing countries. It is encouraging that the Subcommittee has taken an active interest in U.S. export controls and policies.

The Subcommittee has asked me to address a number of topics bearing on U.S. export controls. I will begin by discussing U.S. exports to Iraq.

I. U.S. exports to Iraq

From 1985 to 1990, the U.S. Department of Commerce approved more than 1.5 billion dollars worth of sensitive U.S. exports to Iraq. Most were "dual use" items--capable of making nuclear weapons or long-range missiles if diverted from the civilian uses stated by the Iraqi buyers.

On March 11, 1991, the Commerce Department finally released a list of these exports. The list shows the equipment approved, the date, the buyer in Iraq, the value, and the claimed Iraqi end use. It also shows, beyond any doubt, that U.S. export controls suffered a massive breakdown in the face of Iraqi import dollars. With little trouble, Iraqi front companies openly bought sensitive U.S. high-technology and funneled it straight to Saddam Hussein's nuclear, chemical, and missile production sites.

The project that I direct is now analyzing the list. We have not finished, but we have reached the point where some conclusions are possible.

Dangerous technology

"General military repair applications such as jet engines, rocketcases, etc." This was the declared purpose of two U.S. exports to Iraq approved on January 20 and February 10, 1988. The first was for precision machine tools, the second for lasers. Together the shipments were valued at 1.4 million dollars. The Iraqi buyer was a procurement agency for the Iraqi SCUD missile enhancement program. Indeed, the word "repair" would unquestionably include the reworking of SCUD missile bodies, essential to allow the Iraqi SCUDs to fly far enough to strike Tel Aviv, and far enough to kill U.S. soldiers sleeping in their

bunks in Saudi Arabia.

The exporter was a German company, exporting for some reason from the United States, that had already achieved notoriety in 1983, when the German press revealed that the company was in trouble with German authorities. German customs officials were investigating the company for shipping to Pakistan, through a French subsidiary, equipment for making nuclear weapon fuel. In May 1987 there were a second series of press reports. It seemed that the company was being investigated again, this time for trying to smuggle blueprints for uranium enrichment to Pakistan through Switzerland. To make matters worse, another German firm, Uranit, was suing this company for stealing the blueprints. According to a German official, the evidence against the company was "very incriminating." The company was also suspected of having arranged for a Swiss firm to produce special equipment for Pakistan that could enrich uranium to nuclear weapon grade. Every one of these press reports appeared before the company applied for its two U.S. export licenses on December 1 and 22, 1987.

Despite this company's bad reputation, the Commerce and Energy Departments took only two months to approve the first application and less than a month to approve the second. Neither case was referred to the State or Defense Departments. State, which is supposed to be consulted on missile cases, would have been expected to see the second. It carried commodity control number 1522--which is on the U.S. missile technology control list--and the buyer declared that he intended to work on rocket casings.

The first application listed the "Nesser Establishment for Mechanical Industries" as the end user. This entity was also known as the "Nassr State Enterprise for Mechanical Industries." Nesser was part of the Iraqi Ministry of Industry and Military Industrialization, run by Saddam Hussein's son-in-law Kamel Majid. Nesser ran Iraq's missile and chemical weapon programs, was involved in Iraq's nuclear weapon program, was the procurement arm for Taji (a site used to produce chemical munitions) and, according to Western intelligence documents, was "responsible for the development and manufacture of gas centrifuges for uranium enrichment." In addition, Nesser ran artillery ammunition plants and purchased "high-capacity driving nozzles" from a German company, possibly for use with the Iraqi "supergun." Finally, it was Nesser's job to procure equipment for Project 1728, a SCUD missile modification effort.

Thus in these two cases, U.S. export officials shoveled sensitive U.S. equipment straight into the hands of Iraqi bomb and missile makers, and did it on behalf of an exporter that was already notorious for nuclear smuggling, and on behalf of an end user that admitted it was working on rocket bodies. Despite a

bad seller, a bad buyer, and a bad end use, the export went out at top speed. It is inconceivable that a rational export system could operate this way.

Radar, as everyone learned in the Gulf War, is essential to modern warfare. A flash of radar energy leaves an antenna, strikes an object, and returns. The length of time elapsed determines the distance from the observer. Without a means of measuring time accurately in very small units, modern radar would not be possible. Quartz crystals do exactly that.

Because quartz crystals are vital to radar and missile guidance systems, quartz crystals and assemblies must have a validated export license if they perform at a military level. That means high stability over a wide operating temperature, or the ability to withstand acceleration forces up to 20 times the force of gravity, or shock greater than 10,000 times gravity, or very high radiation. Lower grade crystals do not need a license.

The Commerce Department approved over 2 million dollars worth of quartz crystals in January 1988 for the "Salah al Din Establishment" and "Iraqi Trading Company," both of which frankly said that they wanted them for "components in a ground radar system." The crystals carried commodity control number 1587, which is one of the numbers on the missile technology control list. Because the declared end use was ground radar, this is clearly a missile-tech item. Under ECCN number 1587, missile-tech items are defined as quartz crystals "usable as launch and ground support equipment." This definition is in Part 779, Supplement four, of the U.S. Export Administration Regulations, promulgated in 1987.

This means that the Commerce Department was not telling the truth when it declared, in its press release on March 11, that "no license applications for any MTCR items have been approved for export to Iraq."

One would expect, in view of the end use, that such an item would be denied, since ground radars are essential for developing missiles. Short of that, one would expect the case to be referred to the State Department as a missile-tech case. But Commerce approved both applications in only ten days, without referring the case to any other agency. Instead, Commerce ruled that the cases were "not restricted for MTCR [missile], chemical/biological, or nuclear non-proliferation."

To help operate its radar, Iraq also bought U.S. frequency synthesizers, valued at \$140,000. There was no confusion about the end use of this item either. The buyer, Salah al Din again, declared that the purpose was to "calibrate, adjust, and test surveillance radar." That would include radar used as ground support for missiles capable of delivering nuclear weapons. This

item carried commodity control number 1531, also on the missile technology control list, especially when used for missile "launch and ground support equipment." Commerce did not reject this case either, or refer it to the State Department as a missile item. It approved in only nineteen days, announcing that it was "not restricted for MTCR [missile], chemical/biological, or nuclear non-proliferation."

As for the buyer, Salah al Din was a military electronics factory built by the French company Thomson-CSF. It manufactured three-dimensional early warning radars, and it may also have made components for missile guidance and radar jamming equipment.

Guilty knowledge

According to a GAO report published in June 1990, entitled "U.S. Efforts to Control the Transfer of Nuclear-Capable Missile Technology," the Pentagon sent the Commerce Department a very important letter in November of 1986. The letter informed Commerce that the Pentagon had intelligence information linking a giant Iraqi site called "Sa'ad 16" to missile development. Later, the Los Angeles Times reported that the exact date of the letter was November 6, and also reported that government sources familiar with the letter said that it revealed that Sa'ad 16 was working on other mass destruction weapons as well. Thus, by November 6, 1986 at the latest, Commerce should have stopped approving exports for Sa'ad 16.

There is also compelling evidence that Commerce knew what was going on at Sa'ad 16 even earlier. In February 1985 the Director of the Sa'ad General Establishment signed a letter that described the Sa'ad 16 project in detail. This letter was reportedly sent to Commerce along with the first license requests from the Sa'ad organization. The letter lists 78 laboratories, including two for "calometric testing of fuels," four for testing "starting material and fuel mixtures," one for "measuring aerodynamic quantities on models," and two for developing "control systems and navigation" equipment. The letter also revealed that the Sa'ad General Establishment was a part of the "State Organization for Technical Industries (SOTI)" and the letter said that another name for Sa'ad 16 was the "Research and Development Center."

This letter, combined with the one from the Pentagon, should have excluded any of the named organizations from sensitive U.S. exports after November of 1986.

Unfortunately, this was not the case. The Sa'ad General Establishment got over 1 million dollars worth of U.S. computers in eight cases, seven of which were approved after November of 1986. These computers went right to Sa'ad 16. None of the

cases was referred to the Department of Energy, which is required for items on the Nuclear Referral List, such as computers. Sa'ad also got \$290,000 worth of precision electronic and photographic equipment, approved in February 1987, three months after Commerce received the Pentagon's letter and two years after the Iraqi letter describing Sa'ad 16 was signed.

SOTI, the second Iraqi organization mentioned in the Sa'ad letter, got high-speed U.S. oscilloscopes in a case approved in March 1988, a year and a half after Commerce received the Pentagon's letter. SOTI is part of the Iraqi Ministry of Defense. It commissioned, built and equipped a solid rocket motor production plant called "DOT," and it also procured equipment for at least two SCUD missile enhancement projects. High-speed oscilloscopes are essential to maintain radar, computers, and missile guidance systems, all of which have internal electronics that operate in very short time frames. Oscilloscopes are also used to capture the brief signals from a nuclear weapon test, which occur in a micro-second or less. Only high-performance oscilloscopes need a license, so one must assume that SOTI's oscilloscopes were highly useful.

The third organization mentioned in the Iraqi letter was the "Research and Development Center," which the letter said was another name for Sa'ad 16. The "Center" was licensed to buy \$850,000 worth of U.S. measuring, calibrating, and testing equipment, all approved in January 1987, three months after the Pentagon's letter and almost two years after the letter describing Sa'ad 16 was signed. These cases were not referred to the Department of Energy as required for items on the Nuclear Referral List. The Defense Department apparently objected at the staff level but did not escalate its objections to a higher level before Commerce approved. The Center also got communicating and tracking equipment valued at \$3,000 in 1989, again without referral to the Department of Energy as required for an item on the Nuclear Referral List.

In addition to the letters Commerce received, there were other warnings. U.S. officials now say that U.S. intelligence began to brief other agencies on the Iraqi end user network at least as early as 1987. The briefings continued throughout 1988 and by early 1989, the intelligence warnings had become clear and urgent. In fact, in early 1989, the CIA called all the U.S. agencies concerned with exports together for a special meeting on Iraq. The Commerce Department, however, refused to attend on the ground that its "judgment might be contaminated."

It is clear that Commerce had full authority to reject all of these applications. Under the U.S. Export Administration Regulations, dual-use items are subject to specific export criteria. The following factors are among those considered: the end use, the nature of the equipment (its power to boost nuclear

or missile development), the nature of the recipient country's nuclear or missile efforts, and whether the recipient country has good "non-proliferation credentials." For the cases just discussed, it was obvious that Iraq could not pass those tests.

Before leaving this point, I would like to comment on the Pentagon's participation in these cases. First, the Pentagon saw very few of them. The ones it did see were seen either because of the Pentagon's participation in the Subgroup on Nuclear Export Coordination (SNEC), or because the Pentagon was consulted for its opinion on whether an export was likely to be diverted to a Cocom-proscribed country (primarily the East Bloc). For the vast majority of the cases--a majority that appears to approach 90%--the Pentagon had no role whatever in deciding whether the export might have an impact on nuclear, missile or CBW proliferation. Such a review was outside the Pentagon's mandate except for cases going to the SNEC, which were only about 10% of the cases approved. The same is true of the Arms Control and Disarmament Agency and the intelligence agencies. They had no review role either, except for their participation in the SNEC. Thus, in about nine out of ten cases, Commerce alone decided, or decided with the concurrence of Energy or State.

In my opinion, this record warrants the following conclusions:

1. Highly sensitive U.S. equipment was approved--capable, for example, of processing the rapid data from nuclear weapon and ballistic missile tests, manufacturing rocket bodies, and providing the heart of missile and anti-aircraft radar.
2. The equipment was sold directly to Iraqi front companies, who were already known procurement agents for Iraqi nuclear, chemical and missile production sites.
3. Many sales were approved long after it was clear that the equipment was likely to be diverted.
4. In one case, a foreign firm was allowed to export U.S. computer-controlled machine tools and lasers to an Iraqi front company even after declaring that the purpose was to make rocket casings, and even after the foreign firm had already been caught diverting nuclear equipment to Pakistan.
5. The Commerce Department routinely failed to refer cases to other agencies for review, in violation of its own procedures.

II. The Bush Administration's Response to Arms Proliferation

The Subcommittee has also asked me to comment on the Bush Administration's response to nonconventional arms proliferation. After the Gulf crisis began, and the allied coalition realized that it might face a mass-destruction arsenal built with imports, the Bush administration began to announce new measures for export control. On November 16, 1990, the President issued Executive Order Number 12735. It listed sanctions that could, at the Administration's discretion, be imposed on foreign persons and foreign countries that promote the spread of chemical and biological weapons. The measure was intended to replace the mandatory sanctions that Congress wrote into last year's Export Facilitation Act, which the President vetoed.

But the Order does not really bind the Administration to do anything. It is only a statement that the Administration can impose sanctions if it wants to. Sanctions against foreign countries can be waived entirely for "significant foreign policy or national security reasons." In light of the State Department's record of coddling Iraq right up to the invasion of Kuwait, I don't think there is much chance that Secretary Baker will be quick to impose sanctions on anyone.

The Executive Order is also limited to CW proliferation. It does not affect the spread of nuclear weapons or ballistic missiles. This is a curious omission, in light of all the outside help that recently went to Iraq's nuclear and missile efforts. If we are going to deal effectively with supplier countries like China--which seems to be selling medium-range missiles to Pakistan and a nuclear reactor to Algeria--we have to impose swift and sure penalties for aiding all kinds of nonconventional weapon programs.

The Administration's second measure was the Enhanced Proliferation Control Initiative, which the President announced on December 13, 1990. Unfortunately, the announcement was a net setback for non-proliferation efforts because it also revealed that the President had just approved the export of supercomputers to Brazil and India and a near-supercomputer to China. Thus, the Initiative started its career as a sugar-coating for three dangerous exports.

Supercomputers are the most powerful tools known for designing both nuclear weapons and ballistic missiles. The Brazilian machine is scheduled to go to a Brazilian aircraft company that has a history of helping Iraq develop long-range missiles, and that shares personnel with Brazil's main missile research center. The Indian machine will go to an institute that is doing rocket research for the Indian government. The Chinese machine is going in spite of China's recent missile deal with Pakistan, China's nuclear help to Algeria, and China's human

rights record. Thus, while the Bush administration talks tough on proliferation, it is doing practically nothing to stop it. Despite the lesson of Iraq, the administration is still not willing to spend any political capital to control weapons of mass destruction.

The Enhanced Proliferation Control Initiative does have some positive elements. It extends export controls beyond chemicals to the equipment used to make them. And it expands the number of chemicals that require an export license, and it bars U.S. exporters from knowingly supplying goods for chemical, biological weapon or missile production.

These rules are good as far as they go, but like the President's executive order, the Initiative says nothing about controlling dual-use nuclear technologies, and it only addresses missile proliferation by barring U.S. exports to countries or projects that the exporter knows are developing missiles. This latter provision will only have a practical effect in rare cases, such as the recent episode of the "skull" furnaces, where an industry whistleblower tips off the government, the government then tells the exporter that the shipment is going to be diverted, and the exporter is thus supplied with the required knowledge. Except in the rare case where a whistleblower pops up, the Initiative does not change the way the licensing process works.

The administration's most recent nonproliferation step has been to have the Commerce Department refer more export requests to the Pentagon for review. But this was not exactly voluntary. Congress, last session, passed the Missile Technology Control Act, which now requires the Commerce Department to refer all items on the U.S. missile technology control list to the Pentagon for consultation if the exports are destined for a classified list of "countries of concern." The administration is supposed to be drawing up the list now, but it is not clear where this process stands, and therefore it is not clear how thoroughly the Act is being implemented. This Subcommittee might ask for a clarification on this point. Moreover, the new referral procedure only applies to missile-related exports, not to nuclear-related ones, so the Pentagon may be seeing more cases on missiles than it does on the nuclear warheads that the missiles would carry.

In sum, the Bush administration is applying band-aids where a tourniquet is needed. If we are going to get serious about controlling the spread of nonconventional weapons, we need measures much stronger than these.

II. Strengthening U.S. Export Controls

If stopping proliferation really is a national security priority, as the President says, we need to put our national security apparatus charge of controlling strategic exports. At present, this power is in the hands of the Commerce Department, which is concerned primarily with trade. Commerce cannot possibly police exports at the same time that it promotes them, as the record on Iraq shows. When I last testified before the Subcommittee, I pointed out the example of the old Atomic Energy Commission, which had the job of both promoting and regulating nuclear energy until 1974, when the functions were split. Everyone now agrees that the regulatory process gained great credibility and effectiveness from the separation.

I recommend that Congress take dual-use export licensing away from the Commerce Department and put it in the hands of our national security establishment. Arms proliferation is a strategic question, not a trade question. The value of dual-use exports is tiny compared to overall U.S. exports. The impact of these exports is strategic rather than economic.

It has been suggested that Congress should create a new agency to assume the export licensing function. I would support such a move if there were some way to insure that industry would not take the agency over, as it has the Commerce Department. Industry would obviously have a great incentive to pack such an agency with personnel loyal to its own interests. Given the power of commercial and industrial interests in Washington, it is likely that this would happen.

I think it would be safer to make the Defense Department the "hub" agency for controlling all exports relevant to nuclear, chemical, biological, and missile proliferation. Most of the expertise is already there, and any additional expertise could easily be obtained through the national laboratories. Commerce has no real expertise on these matters. Commerce should have, at most, a record keeping function. Commerce should refer applications on receipt to the Pentagon, which would make the final licensing decision in consultation with the Commerce, Energy, and State Departments, the Arms Control and Disarmament Agency, and the intelligence agencies.

To coordinate this process, the Pentagon could merge its relevant staff, and the relevant staffs from other agencies, into a Bureau for Strategic Trade. Commerce could still handle the paperwork and records, but DOD would have the power to grant or deny licenses. This change would put military experts in charge of exports with military applications.

I also recommend that Congress adopt a more systematic and effective form of oversight. A Congressional committee with

jurisdiction over national security matters should oversee and evaluate U.S. export licensing on a continuous basis. That committee could be a subcommittee of one of the Armed Services committees, or of the Governmental Affairs or Governmental Operations committees, or of the Joint Economic Committee. It could even be this subcommittee. The committee or subcommittee should receive complete quarterly reports on granted export licenses, and should have sufficient staff to oversee the export control process. If necessary, the General Accounting Office could be asked to help.

I also recommend, as I did in my previous testimony, that dual-use licensing be pushed into the light of day. Congress should amend Section 12(c) of the Export Administration Act without delay, so as to require quarterly public reports of licenses granted. These reports would contain the same information as recently released for Iraq, but would also include the name of the exporter. If a company is ashamed to have it known that it sold one of its products to a developing country, the company should not have made the sale in the first place. No reputable company should object to this. Every dual-use export is made for civilian purposes, and is restricted to peaceful use. There is no reason whatsoever for keeping these exports secret. I think that making them public would be the greatest long-term structural improvement in the process that Congress could legislate.

III. Cocom and Other Multilateral Export Regimes

The Subcommittee has also asked for my comments on the current effort to reduce the export controls applied by Cocom, the Coordinating Committee on Multilateral Export Control, which consists primarily of the NATO countries and Japan, and which applies export controls against the former members of the East Bloc. As I stated in my previous testimony, there has been a rush to celebrate the end of the Cold War by reducing the Cocom control list. Unfortunately, dropping Cocom controls often means dropping the only controls many Cocom countries have on dual-use exports. This decontrol exercise will make it easier for the developing countries to buy dangerous equipment from Cocom members, either directly or through the former East Bloc. Once barriers to trade with the old East Bloc are gone, there will be nothing to prevent these cash-starved regimes from retransferring sensitive Western technology to proliferant countries.

Nevertheless, Cocom is moving toward a policy of approving licenses for all but the most sensitive technologies to end users in Poland, Hungary and Czechoslovakia. The United States is supposed to be helping these countries develop export control systems, but common sense tells us that these countries are more worried about other things. There is no reasonable prospect of

insuring that Western exports won't be diverted.

The Cocom decontrol process is scheduled to continue later this month at a high-level meeting in Paris. The entire schedule of dual-use goods may be scrapped and replaced by a much smaller "core group" limited to eight categories. After the Paris meeting, a new text will be sent to industry for comment, and new regulations will be published this summer.

Among the items that probably will be released for sale are filament winding machines to make uranium gas centrifuges, "shake and bake" equipment for testing the ability of nuclear warheads and missiles to withstand atmospheric reentry forces, and high-speed cameras used to study the implosive shock waves that detonate fission bombs. The United States has tried to keep these goods away from proliferant countries for many years.

If President Bush really believes that proliferation is a threat, he should be pressing Cocom members to develop North-South controls before they loosen East-West controls on these and other dangerous technologies.

To try to compensate for the loss of controls in Cocom, a group of countries called the Nuclear Suppliers Group has been re-activated. The Group met in March 1991 for the first time in thirteen years, and its 26 members, which now include the countries of the European Community, pledged in principle to adopt export controls on dual-use items. The Group will meet again in May to draft a multilateral dual-use nuclear control list.

I believe that Congress should directly oversee the U.S. role in these multilateral efforts. I recommend that the same committee that oversees U.S. export control at home should also oversee our efforts to establish multilateral controls abroad. Congress should look over the administration's shoulder on both of these vital issues, and should let the administration know that its performance so far has not been good enough.

Licensing Mass Destruction

U.S. Exports To Iraq: 1985-1990

by Gary Milhollin

June 1991

Wisconsin Project on Nuclear Arms Control
1900 L Street, NW
Washington, DC 20036
(202) 223-8299

INTRODUCTION

The U.S. Department of Commerce licensed more than \$1.5 billion worth of sensitive U.S. exports to Iraq from 1985 to 1990.¹ Most were "dual-use" items, capable of making nuclear weapons or long-range missiles if diverted from their claimed civilian purposes.

On March 11, 1991, the Commerce Department released a list of those licenses. The list showed the equipment approved, the date, the value, the buyer in Iraq and the claimed Iraqi end use. This report is an analysis of the list. It shows, beyond any doubt, that U.S. export controls suffered a massive breakdown in the period preceding the Gulf War. When U.S. planes were sent to destroy Iraq's strategic sites, much of the equipment they bombed was made in the United States. The report finds that:

-- The Commerce Department knew that millions of dollars' worth of sensitive American equipment would wind up in Iraq's missile and other military programs, but approved the licenses anyway.

-- The Commerce Department failed to refer missile technology export cases to the State Department and nuclear technology cases to the Energy Department, in violation of its own procedures.

-- Front companies for every known nuclear, chemical and missile site in Iraq bought American computers, with total American computer exports exceeding \$96 million.

-- American machine tools may have helped build the SCUD missiles that hit Tel Aviv and killed U.S. troops in Saudi Arabia.

-- American radar components may have helped shoot down U.S. aircraft and develop long-range missiles.

Based on these findings, the study recommends that Congress take dual-use licensing away from the Commerce Department, appoint a Congressional committee to oversee the licensing process, and open dual-use licensing to public view.

EXPORTS TO IRAQ: THE U.S. RECORD

Dangerous technology

Rocket casings

"General military repair applications such as jet engines, rocketcases, etc."

This was the declared purpose of two U.S. exports to Iraq, valued at \$1.4 million and approved on January 20 and February 10, 1988. The first was for precision machine tools, the second for lasers. The Iraqi buyer was a procurement agent for the Iraqi SCUD missile program. With this equipment, Iraq would be able to make precision parts for missiles, and also be able to rework the cases of its short-range SCUD missiles, enabling them to carry more fuel and fly farther. Indeed, the stated use on the application was to work on "rocketcases." With the longer range, the new Iraqi SCUDs could hit Tel Aviv and kill U.S. soldiers in Saudi Arabia.

The exporter was a German company, exporting from the United States. The company, whose name the Commerce Department refused to disclose, first came to the attention of German officials in early 1984, when German intelligence reported that the company was suspected of selling Pakistan equipment for making nuclear weapon fuel. In May 1987, the firm was cited in news reports, this time for trying to smuggle blueprints for uranium enrichment to Pakistan through Switzerland. To make matters worse, another German firm, Uranit, was suing this company for stealing the blueprints. According to a German official, the evidence against the company was "very incriminating."² The company was also suspected of hiring a Swiss firm to produce special equipment for Pakistan that could enrich uranium to nuclear weapon grade. The press reports appeared only six months before the company applied for its two U.S. export licenses on December 1 and 22, 1987.

Despite the exporter's notoriety, the Commerce and Energy Departments took only two months to approve the first application (case B281441) and less than a month to approve the second (case B286904). Neither was referred to the State or Defense Departments for review.

The importer was the "Nesser Establishment for Mechanical Industries," also known as the "Nassr State Enterprise for

Mechanical Industries." One of Nassr's main jobs was to procure equipment for Project 1728, devoted to increasing the range of Iraq's SCUD missiles. Nassr was part of the Iraqi Ministry of Industry and Military Industrialization (MIMI), run by Saddam Hussein's son-in-law Hussein Kamil al-Majid. MIMI was generally in charge of Iraq's missile and chemical weapon efforts. Nassr also served as the procurement arm for Taji, a site used to produce chemical munitions and, according to Western intelligence documents, "responsible for the development and manufacture of gas centrifuges for uranium enrichment."³ In addition, Nassr ran artillery ammunition plants, purchased "high-capacity driving nozzles" for missiles from a German company,⁴ and was linked to the Condor II intermediate-range missile project.

Thus the Commerce Department approved sensitive U.S. equipment that would go directly to Iraqi nuclear weapon, chemical weapon, and missile sites, despite the fact that the exporter was suspected of nuclear smuggling, and despite the fact that the importer declared an intention to work on rocket bodies. Commerce knew that the exporter was unreliable, and knew that the end use was improper, but approved the export anyway.

This equipment may well have helped build the SCUD missile that killed American troops in Dhahran. The buyer represented the SCUD program, the equipment was used to rework rocket casings, and Iraq used a long-range SCUD with a reworked casing to reach the U.S. troops in Saudi Arabia.

Radar

In January 1988, the Commerce Department approved more than two million dollars' worth of quartz crystals to the "Salah al Din Establishment" (case B290664) and the "Iraqi Trading Company" (case B346115), both of which frankly said that they wanted the crystals for "components in a ground radar system." Salah al Din was a military electronics factory built by the French company Thomson-CSF. It manufactured three-dimensional early warning radars and may have made components for missile guidance and radar jamming equipment.

Quartz crystals perform a vital function in radar: they measure time accurately in small units. Because the position of an object is determined by the time it takes a radar pulse to reach the object and return, accurate time measurement is essential. Military-level quartz crystals are defined as those with high stability over a wide operating temperature, or with the ability to withstand acceleration forces up to 20 times gravity, or shock greater than 10,000 times gravity, or very high radiation. Lower grade crystals do not need a license.

The crystals carried commodity control number 1587, identifying them as especially useful for missile production. All items on the U.S. Commodity Control List require an individual license for export, but some of the items, such as quartz crystals, are singled out as sensitive for missiles. In such cases, the State Department is supposed to be consulted because State chairs the Missile Technology Export Committee (MTEC), an interagency group that evaluates export applications subject to missile controls. This means that the Commerce Department should have referred the two applications to State for interagency review. Instead, Commerce itself approved both in only ten days. Commerce claimed that the cases were "not restricted for MTCR [missile], chemical/biological, or nuclear non-proliferation."

Salah al Din also needed advanced equipment to operate its radars. In late 1989, it bought American frequency synthesizers valued at \$140,000 to "calibrate, adjust, and test surveillance radar" (case D055821). This would apparently include the radar used to shoot down U.S. aircraft in the Gulf War, and radar used as ground support for missiles capable of delivering nuclear weapons. The frequency synthesizers carried commodity control number 1531, also on the missile technology control list when used for missile "launch and ground support equipment." Commerce did not refer this case to the State Department either, as it should have done for a missile technology item. It approved the application unilaterally in only nineteen days, claiming again that the export was "not restricted for MTCR [missile], chemical/biological, or nuclear non-proliferation."

In fact, Commerce knew that Salah al Din was building military radar. When Commerce compiled its internal records on the frequency synthesizers, it noted that "according to our information, the end user [Salah al Din] is involved in military matters." Commerce then deleted this statement before it released the export list to the public.

Thus, Commerce approved vital parts for a surveillance radar that Commerce knew was military. The effect was to provide ground support for Iraqi missiles, and to help Iraq detect and shoot down U.S. planes in the Gulf War. It is not surprising that Commerce concealed this knowledge from the public.

Guilty knowledge

Sa'ad 16

In November of 1986, the Defense Department sent an important letter to the Commerce Department.⁵ The letter informed Commerce that the Pentagon had intelligence information

linking a giant Iraqi site called "Sa'ad 16" to missile development. Later, the Los Angeles Times reported that the exact date of the letter was November 6, and also said that according to government sources familiar with the letter, it revealed that Sa'ad 16 was working on other non-conventional weapons as well. Thus, by November 6, 1986, the Commerce Department should have stopped approving dual-use exports for Sa'ad 16.

There is also compelling evidence that Commerce knew what was going on at Sa'ad 16 much earlier. In February 1985 the Director of the Sa'ad General Establishment sent a letter to Gildemeister Projecta, the German company in charge of buying equipment for Sa'ad 16.⁶ The letter, which described the Sa'ad 16 project in detail, was reportedly sent to Commerce along with the first license requests from the Sa'ad organization in 1985. Indeed, on May 8, 1985, Gildemeister filed an application for a \$60,000 computer for the Sa'ad General Establishment, which Commerce approved six weeks later (case A897641). The letter listed 78 laboratories, including four for testing "starting material and fuel mixtures," two for "calometric testing of fuels," two for developing "control systems and navigation" equipment and one for "measuring aerodynamic quantities on models." On May 3, 1986 a second letter from Sa'ad revealed that the Sa'ad General Establishment was a part of the "State Organization for Technical Industries (SOTI)" and that another name for Sa'ad 16 was the "Research and Development Center."⁷ Commerce undoubtedly received this second letter--an internal Commerce memo mentions it.⁸ These two letters from Sa'ad, combined with the November 1986 message from the Pentagon, should have barred any of the organizations named from receiving sensitive U.S. exports after November 6, 1986.

But that was not the case. The Sa'ad General Establishment got over half a million dollars' worth of U.S. computers in eight cases, seven of which were approved after November 1986. These computers went directly to Sa'ad 16, Iraq's largest and most important missile research site. None of the cases was referred to the Department of Energy, as required for items on the Nuclear Referral List such as computers. As explained below, the Nuclear Referral List consists of items that are especially useful for making nuclear weapons if diverted from their civilian purpose. Sa'ad also got \$290,000 worth of precision electronic and photographic equipment, approved in February 1987, three months after Commerce received the Pentagon's letter and two years after the letter describing Sa'ad 16 was signed.

SOTI, the second Iraqi organization mentioned in the Sa'ad letter, got high-speed U.S. oscilloscopes in March 1988, a year and a half after Commerce received the Pentagon's letter (case B259524). SOTI is part of the Iraqi Ministry of Defense. It directed the construction and equipping of a solid rocket motor

production plant called "DOT," and it also procured equipment for at least two SCUD missile enhancement projects. High-speed oscilloscopes are essential to maintain radar, computers and missile guidance systems, all of which have internal electronics that operate in short time frames. Oscilloscopes are also used to capture the brief signals from a nuclear weapon test, which occur in a microsecond or less. Only high-speed oscilloscopes need a license for export.

The third organization mentioned in the Sa'ad letter was the "Research and Development Center," which the letter said was another name for Sa'ad 16. The "Center" was allowed to buy \$850,000 worth of high-performance measuring, calibrating, and testing equipment (cases B060729 and B075876), all approved in January 1987, three months after the Pentagon's letter and almost two years after the Iraqi letter describing Sa'ad 16 was signed. These cases were not referred to the Department of Energy either, despite the fact that the items exported were on the Nuclear Referral List. The Defense Department apparently objected at the staff level but did not escalate its objections to a higher level before Commerce approved the exports. The Center also got communicating and tracking equipment valued at \$3,000 in 1989 (case B382561), again without referral to the Department of Energy as required for an item on the Nuclear Referral List.

In addition to the letters from Sa'ad and the Pentagon, there were other warnings. According to U.S. officials, American intelligence began to brief other U.S. agencies on the Iraqi end user network at least as early as 1987. The briefings continued throughout 1988. By early 1989, the intelligence warnings had become clear and urgent. At that time the CIA called all the U.S. agencies concerned with exports together for a special meeting on Iraq. Commerce, however, refused to attend on the ground that its "judgment might be contaminated."

In the open press, the earliest detailed accounts of Sa'ad 16 emerged in January 1989, when the German magazine Stern published a list of the Sa'ad 16 laboratories. Over the next several months, the German press published several stories linking Sa'ad 16 to Iraqi missile, nuclear and chemical weapon development. But even these press reports did not stop Commerce from approving the tracking equipment in June of 1989.

Thus the Commerce Department continued to approve sales of sensitive American equipment to Iraqi front companies even after it knew that the equipment was likely to be diverted.

Violations of procedures

Commerce also failed to refer cases to other agencies for review, in violation of its own procedures.

The quartz crystals mentioned above were on the missile technology list--the list of items deemed especially useful for missile production.⁹ Both that list and a second one, known as the Nuclear Referral List, are subsets of the U.S. Commodity Control List (CCL). All items on the CCL require an individual validated license for export. Under Commerce Department regulations, quartz crystals are defined as missile items if "usable as launch and ground support equipment." This they clearly were, because the Iraqi buyer stated that they would be used as "components in a ground radar system." Ground radar is essential to support the launching, testing and tracking of missiles. The frequency synthesizers were also on the missile technology list if "usable as launch and ground support equipment." They clearly were also, because the buyer admitted that they would be used to "calibrate, adjust, and test surveillance radar." Thus, Commerce should have referred both of these cases to the State Department for review by the Missile Technology Export Committee, the interagency group responsible for licensing missile-related exports.

The Commerce Department also failed to refer millions of dollars' worth of compasses, gyroscopes and accelerometers to the State Department. Some of these items were sold to Iraqi Airways, which the U.S. Treasury identified in April 1991 as a "front company" in Iraq's "arms procurement network." Some also went to the Iraqi Air Force and some went to the Iraqi Ministry of Defense--both military organizations. All items in this category (ECCN 1485) are defined as missile-related because they can be used to make missile guidance systems.¹⁰ Commerce nevertheless approved them without consulting the State Department, as required by its own procedures.

Thus when Commerce stated on March 11, 1991 in a press release that "no license applications for any MTCR [missile technology] items have been approved for export to Iraq," it contradicted its own export records.

Commerce also violated its statutory obligation to refer nuclear cases to the Department of Energy. Section 309(c) of the Nuclear Non-Proliferation Act of 1978 requires that the executive branch develop a special list of items that "could be of significance for nuclear explosive purposes" if diverted from civilian use. The list is known as the "Nuclear Referral List." All items on the list require export licenses, and all license applications must be "reviewed by the Department of Commerce in consultation with the Department of Energy."¹¹

In fact, Commerce licensed numerous items on the list without referring them to the Department of Energy. The most common item was computers, which carry CCL number 1565. Computers operating above a certain speed are regulated by the Nuclear Referral List, and some special computers are also on the missile technology list. Commerce approved the following 20 computer cases, with a total value of over \$5 million, without referring any of them to the Department of Energy. The fact that these computers required licenses shows that the computing speed must have been high enough to be regulated by the list. Thus, in all 20 cases, Commerce violated its own procedures as well as Section 309(c) of the Nuclear Non-Proliferation Act.

Case	Importer	Value
A800390	State Organization of Post- & Tel.	\$3,600,000
A843654	Iraq Spare Parts Manufacturing	13,000
A844783	Ministry of Industry	488,000
A847302	Schlumberger	500,000
A849514	Ministry of Irrigation	389,000
A892228	State Organization for Tech Ind.	11,000
B050974	Directorate of Mobilisation	25,900
B061971	Central Statistics	87,800
B069513	Iraq Nation Oil	210,600
B072960	Economic Commission	40,810
B073687	Schlumberger	2,000
A853710	Saab Abbas	40,700
A854382	Arab Petroleum	37,500
A857954	State Organization for Phones	48,000
A862229	Ministry of Education	13,000
A862232	Ministry of Industry	22,400
A866566	Scientific Council	1,900
A866912	Mendes Jr. International	32,000
A887265	University of Baghdad	10,000
A887266	University of Baghdad	11,000

Commerce also approved several military items to military buyers without consulting the Department of Defense. These included the machine tools and lasers, discussed above, which are used to fabricate rocket casings, the quartz crystals discussed above which are used as components in ground radar, and the navigation, radar and airborne communication equipment sold to the Iraqi Air Force and Ministry of Defense. Exports of such clearly military items to military buyers should have been referred to U.S. security experts.

The Defense Department, in fact, played only a minor role in the export approval process. The Pentagon saw an export case for only two reasons. First, it was consulted for its opinion whether an item was likely to be diverted to a Cocom-proscribed country (primarily the East Bloc). For these cases, the Pentagon

had no power to decide whether the export might contribute to nuclear, missile or chemical weapon proliferation. Such a decision was outside the scope of its review.

Second, the Pentagon saw a handful of nuclear cases because it participated in the Subgroup on Nuclear Export Coordination (SNEC), the interagency group that evaluates nuclear-related exports. But the SNEC reviewed only 24 of the 771 cases approved from 1985 to August 1990--three percent of the total. Commerce essentially bypassed the SNEC by failing to refer cases to it. Thus, for the vast majority of the exports--roughly 97%--the Pentagon did not participate in judgments about the risk of proliferation. Neither did the Arms Control and Disarmament Agency or the intelligence agencies. They had no role beyond their participation in the SNEC. Thus, in 97% of the cases, Commerce alone decided, or decided with the concurrence of Energy or State, whether an item increased the risk of nuclear or missile proliferation.

Commerce did not follow a consistent pattern in selecting the few cases it did send to the SNEC. The Iraqi Atomic Energy Commission, for example, bought a large computer, valued at \$2.8 million (case B175217) which was not referred to the SNEC, and also bought \$87,000 worth of precision electronic and photographic equipment (ECCN 6599) with no external review at all (case D042767). But a second computer, worth only \$24,390 (case B108166), was referred to the SNEC, indicating that the SNEC may not have received the most important cases. Ten of the items approved for the Iraqi Atomic Energy Commission were on the Nuclear Referral List, but only three were submitted to the SNEC.

Commerce also approved \$200,000 worth of computers for Al-Qaqaa, the Iraqi nuclear weapon design laboratory. Commerce did not refer the computers to either the Department of Energy or the SNEC.

Violations of policies

The Commerce Department had full authority to reject every application discussed above. Under Commerce regulations, dual-use exports must satisfy specific criteria. The criteria include the following tests: whether the stated end use is acceptable, whether the item could aid nuclear weapon or missile development, whether the importing country has a nuclear or missile development effort, and whether the recipient country has good "non-proliferation credentials."¹²

Iraq never came close to passing those tests. The "stated end use" of some of the items was explicitly to produce rockets and radar. The items exported, such as machine tools and radar

components, were obviously powerful enough to aid missile and nuclear development. It was also clear that Iraq had nuclear and missile development programs. Iraq had been trying to build nuclear weapons since at least 1981, when Israel bombed the Osirak reactor near Baghdad, and Iraq had been known since the mid-1980s to be working with Argentina and Egypt on nuclear-capable missiles. In addition, U.S. intelligence knew by the mid-1980s that many of the importers listed on the licenses were fronting for Iraqi nuclear and missile sites. If the Commerce Department had applied its own criteria, it would have denied many of the Iraqi applications.

Dangerous end users

The annex to this report lists Iraq's known military and nuclear end users. The sixteen buyers listed either built, equipped or operated Iraq's nuclear, missile and chemical weapon sites. Given the centralized control of all important activity in Iraq, and the supreme importance of the Iraqi military, the true list of military users is surely longer. Any sensitive export to a buyer in Iraq must have been available to the military, regardless of what the export application said.

Nevertheless, the sales to these sixteen buyers tell an important story. All sixteen imported U.S. computers, the indispensable tool of modern research and manufacture. These computers must have aided the work of virtually every Iraqi nuclear, missile and chemical weapon site. Altogether, about \$25 million worth of U.S. computers went to the sixteen military or nuclear buyers identified in this report. Iraq's total purchases of U.S. computers amounted to more than \$96 million, one fourth of all the Iraqi dual-use imports from the United States.

Exports were also licensed that--for reasons known only to Commerce--did not appear on the list released to the public. In 1987, Electronic Associates of Long Branch, New Jersey sold Sa'ad 16 a "hybrid digital-analog computer," specially designed for wind tunnel experiments on missiles. The computer is reportedly identical to a computer now operating at the U.S. government's White Sands missile range in New Mexico. The sale went to MBB and Gildemeister, the two German companies that were Sa'ad 16's main missile technology suppliers. The Department of Defense opposed the sale and had the license brought before the National Security Council in September 1987. Although the NSC decided to block the export, the computer had been shipped eight months earlier in January, without the Pentagon's knowledge.

Commerce also approved exports informally that do not appear on the public list. In response to an exporter's request,

Commerce can approve a shipment by stating that no license is required. Two of these cases have recently come to light.

In 1989, the Consarc Corporation of New Jersey notified Commerce that it wanted to export a "skull" furnace to Iraq. Consarc explicitly told Commerce that the furnace could aid a nuclear program. The furnace could melt zirconium for nuclear fuel rods, could melt titanium for missile nose cones and other critical missile parts, and might be able to melt plutonium and uranium for nuclear bomb cores. The skull furnace was to be accompanied by three other furnaces: an electron beam furnace from Consarc, and furnaces for vacuum induction and heat treatment from Consarc's subsidiary in Scotland.

Used together, the four furnaces would have far exceeded Iraq's stated purpose, which was to manufacture artificial limbs for victims of the Iran-Iraq War. According to U.S. officials, Iraq would have had a "Cadillac" production line for atomic bomb and ballistic missile parts, even better than the facilities at American nuclear weapons labs. Commerce nevertheless told Consarc that no export license was needed.

In June 1990, a person outside the government told the Pentagon about the sale. This set off a chain of official reactions that led the White House to block the shipment.

It turns out that equipment accompanying the furnaces needed export licenses. In June 1989, Commerce licensed special computing equipment to control the furnaces' operation (case D030956) and in January 1990, Commerce licensed numerical control equipment to make new crucibles for the furnaces (case D064342). This latter export was crucial. One of the main reasons for thinking that the original skull furnace might not be used to make A-bombs was that the original crucible was not suited for melting heavy metals such as uranium. But when Commerce licensed the equipment for making additional crucibles, Iraq got what it needed to make A-bomb cores.

Also in 1989, another New Jersey company, Struthers, Dunn, Inc. of Pitman, contacted the same Commerce representative, Michael Manning, who had advised Consarc. Iraq wanted to buy "time-delay relays," devices that have civilian uses but are also used to separate the stages of ballistic missiles in flight. Iraq wanted a special model, "tested for shock and vibration" that would perform at 350,000 feet--66 miles above the earth. Ronald Waugaman, who handled the case for Struthers, Dunn, said "when I heard 350,000 feet, I thought missile."¹³

Waugaman said he told Manning about the high-altitude specifications, which were military grade. They contradicted Iraq's official claim that the relays were for "heavy industrial use." Waugaman said he told Manning that "they're not putting

tractors 350,000 feet in the air."¹⁴ Nevertheless, Waugaman said that U.S. officials told him that if a civilian end use was stated, there was no reason to bar the export.

RECOMMENDATIONS

Strengthening U.S. Export Controls

The U.S. export control system has broken down for three reasons: the wrong people are in charge of it, Congress has ignored it, and it is secret.

Remove export control from the Commerce Department

It has frequently been said that there is a conflict between the Commerce Department's duty to promote exports and its duty to regulate them--that Commerce has conflicting missions in the export field. The licenses to Iraq prove that this is true. Commerce licensed items that did not meet its export criteria, that it knew would be diverted from their supposed civilian purposes, and that it knew would help Iraq's nuclear and missile programs. Commerce even excluded the State and Energy Departments from the licensing process, in violation of its own procedures.

The best known example of a federal agency that tried to promote and regulate at the same time is the old Atomic Energy Commission, which had the job of both promoting and regulating nuclear energy until 1974, when Congress decided to split the functions. The Nuclear Regulatory Commission now regulates; the Department of Energy promotes. Everyone agrees that nuclear regulation gained great credibility and effectiveness from this separation.

Congress should now follow this precedent for dual-use licensing. It should take this function away from Commerce and give it to an independent regulatory agency such as the Nuclear Regulatory Commission or to some other department, such as Defense, that has no export promotion function. The Commerce Department, which specializes in trade, is not the place to decide strategic questions. An agency that specializes in national security should have that task. It is essential to recognize that the real significance of dual-use items is strategic, not economic. The number of items on the control list is small; well over 90% of the applications to export them are

granted; and the value of the few applications denied is tiny compared to the overall value of U.S. foreign trade.

It has been suggested that Congress should create a new agency to handle all export licensing. Such a move would be sound if Congress could insure that industrial interests would not take the agency over, as they have the Commerce Department. Industry would have a great incentive to pack such an agency with personnel loyal to its interests.

It would be safer and more logical to make the Defense Department the "hub" for controlling all exports relevant to nuclear, chemical, biological and missile proliferation. Most of the expertise is already in the Pentagon, and any additional expertise could be transferred from other agencies and obtained through the national laboratories. Commerce, which has no substantive expertise on dual-use technology, should retain only a record keeping function. Commerce should refer applications to the Pentagon, which would make the final licensing decision in consultation with the Commerce, Energy, and State Departments, and with the Arms Control and Disarmament Agency and the intelligence agencies. This change would put military experts in charge of exports with military applications.

Impose Congressional oversight

Congress essentially ignored export licensing to Iraq until the invasion of Kuwait. Oversight was entirely lacking during the period preceding the Gulf War. If Congress had looked into what the Commerce Department was doing, Congress would have learned quickly that Commerce was not following the rules. A Congressional reaction might have stopped some of the worst exports from going out.

Congress should now impose an effective form of oversight. A Congressional committee with jurisdiction over national security matters should be given the task of overseeing and evaluating export licensing. That committee could be a subcommittee of one of the Armed Services committees, or of the Governmental Affairs or Government Operations committees, or of the Joint Economic Committee. The committee or subcommittee should receive complete reports on pending or approved licenses and should have sufficient staff to oversee export controls. If necessary, it could receive assistance from the General Accounting Office or the Office of Technology Assessment.

Open export licensing to public view

The other important lesson we can draw from nuclear regulation is the great benefit of making decisions in public.

All of the Nuclear Regulatory Commission's export licenses are granted on the public record and in the light of day. This is the main reason why there are no horror stories about U.S. nuclear exports to Iraq. Neither exporters nor regulators want to defend such transactions in public, so they do not happen.

The Commerce Department's process is secret. Neither Congress nor the public is permitted to examine Commerce licensing in the open. This is true despite the fact that dual-use licenses are supposed to be for civilian items restricted to peaceful use.

Commerce refuses even to confirm the existence of an individual license application, and refuses to disclose which applications have been approved after the exports have gone out. Cases come into public view only when someone inside the government becomes angry enough to leak them to the press. This means that only the exporters know which cases are pending, and only the exporters' voices are heard by the licensing officers when decisions are made. The effects are to freeze the public and Congress out of the process and to open the door to the worst forms of private lobbying.

The Commerce Department argues that secrecy is necessary to protect proprietary interests. But the U.S. nuclear industry competes well on the international market despite the openness of NRC regulation.

Congress should now require the Commerce Department to publish quarterly summaries of all dual-use licensing actions. This information already exists in a database. It could be released by pushing a button. The resulting list would be the same as the one that Commerce released in March on Iraq, but would include countries such as Iran, Libya and Syria. The list would only cover licensing actions that have been completed. Pending sales would not be revealed. Congress could accomplish this by amending Section 12(c) of the Export Administration Act, which the Commerce Department now interprets as requiring complete secrecy for dual-use licenses.

The list would also include the name of the exporter. If a company is ashamed of having sold one of its products to a developing country, the company should not have made the sale in the first place. Reputable companies do not object to telling the truth about their business. If the sales are legitimate, and satisfy the export criteria, there is no reason to keep them hidden. The decision to license them is an official government act paid for with tax dollars. Pushing export licensing into the light of day would encourage the exporters to be honest, encourage the government to be careful, and allow the public to find out whether U.S. exports are undermining national security.

ANNEX: IRAQI END USERS

Following is a list of the known Iraqi military and nuclear end users that imported sensitive American equipment from 1985 to August 2, 1990, when Iraq invaded Kuwait:

Iraqi Airways: One of the "agents and front companies" that Iraq used for its "arms procurement network," according to the U.S. Treasury Department. In a press release on April 1, 1991, Treasury termed these companies "Specially Designated Nationals," and said that "when you deal with them, you're dealing with Saddam."

- Total approvals to Iraqi Airways: over \$50 million, including:

1. Compasses, gyroscopes, and accelerometers (ECCN 1485) valued at \$13 million in seven cases.
 - The Commerce Department approved these sales without external review in four of the seven cases, despite the fact that these were missile items and were approved after the missile list came into effect. All items under category 1485 are controlled as missile items.
2. Navigation, radar and airborne communication equipment (ECCN 1501) valued at \$5 million in five cases.
 - Approved without external review in four of the five cases.
3. Computers (ECCN 1565) valued at \$5 million.
4. Aircraft, helicopters, engines and equipment valued at \$23,000,000.
5. Aircraft parts, boats, diesel engines, underwater cameras, and submersible systems valued at \$28 million.

- Many of the items approved for Iraqi Airways fell into categories that are listed, by their commodity control numbers, as useful in the development, testing, production

and deployment of missiles capable of delivering nuclear weapons. Items such as compasses, gyroscopes, accelerometers, computers, radars and navigational equipment all fall into this category. It is possible that some of these items aided the Iraqi SCUD program.

- The procedures by which missile technology exports are approved are not available to the public. It is widely assumed that at least the Department of State reviews and approves these sensitive exports. However, the Department of Commerce approved at least six exports that appear to be on the missile technology list with no external review. In one case (B373514), the Commerce Department approved over a million dollars' worth of compasses, gyroscopes, and accelerometers without consulting either the State or Defense Departments. All items in category 1485 are missile items and should have been referred to the State Department.

Iraqi Air Force:

- Total approvals: \$57 million, including:

1. Navigational, radar, and air communication equipment (ECCN 1501) valued at more than \$200,000 in nine cases.
 - No external review in five of the cases (A839273, A858162, A866417, B200489, B222433).
 - State Department approved three of the cases.
2. Compasses, gyroscopes, and accelerometers (ECCN 1485) valued at \$957,500.
 - Commerce Department approved without external review in March 1989, despite the fact that these are missile technology items.
3. Oscilloscopes (ECCN 1584) valued at \$12,391 (case A826888).
 - Approved by State Department in May 1985.
4. Computers (ECCN 1565) valued at \$11,394 (case B236580).
 - No referral to Energy Department, as required for items on the Nuclear Referral List.
5. Aircraft and helicopters (ECCN 6460) valued at \$45.8 million.
 - Approved by the State and Energy Departments from April to June, 1988.

Iraqi Atomic Energy Commission: Responsible for nuclear research in Iraq, including Iraqi work on nuclear weapons.

- Total approvals: over \$3 million, including:

1. Computers (ECCN 1565) valued at \$2.9 million.
 - The largest computer export, valued at \$2.8 million (case B175217) was approved by the Energy Department without referral to the SNEC, whereas a second computer, worth only \$24,390 (B108166) was referred to the SNEC, indicating that the SNEC did not receive the most important cases.
 - A third computer was approved without referral to the Energy Department, which is required for a commodity on the Nuclear Referral List being exported to a nuclear end user for a nuclear end use. This violated export control procedures.
2. Precision electronic and photographic equipment (ECCN 6599) valued at \$87,000 (case D042767).
 - No referral for external review.

- Ten of the items approved for this end user were on the Nuclear Referral List, but only three were submitted to SNEC for interagency review.

Ministry of Defense: In charge of Iraqi defense operations. Responsible for the State Organization for Technical Industries (SOTI) and the Sa'ad General Establishment (both described below).

- Total approvals: over \$567 million, including:

1. Computers (ECCN 1565) in eighteen cases valued at \$2.1 million.
 - Commerce referred only two of the eighteen cases to the Energy Department, as required for items on the Nuclear Referral List. Of the two cases referred to Energy, only one was referred to the SNEC.
2. Compasses, gyroscopes and accelerometers (ECCN 1485) in three cases valued at over \$1 million.
 - These items are subject to missile technology controls.
 - Commerce did not refer one case (B204774) valued at \$60,136 for external review, although the approval was in May 1987 after the establishment of the missile control list in April 1987.

3. Navigation, radar, and airborne communication equipment (ECCN 1501) valued at \$291,000.
- These items may be subject to missile technology controls.
 - The bulk of the value of this approval was for case B353226, valued at \$264,000, which Commerce did not refer for external review, despite the fact that the approval was in September 1988 after the establishment of the missile control list in April 1987.
 - Commerce licensed this sale of dual-use military equipment to a military end user without external review by the Defense Department.

State Organization for Technical Industries (SOTI):
 Subdivision of the Ministry of Defense. Commissioned the building and equipping of DOT, a solid rocket motor production plant built as part of the Condor II project. Also procured, according to U.S. officials, equipment for the Al-Hillah and Al-Fallujah SCUD modification projects and the space launch facility at Karbala.

- Total approvals: \$1.4 million, including:

1. Oscilloscopes (ECCN 1584) valued at \$20,000.
 - Commerce approved three applications, two without the external review required for items on the Nuclear Referral List.
 - One oscilloscope went to Mansour, a military site described below.
2. Computers (ECCN 1565) valued at \$380,000 in five cases.
 - Only one of the five cases was reviewed by the Energy Department, as required for items on the Nuclear Referral List.
3. Measuring, calibrating, and testing equipment (ECCN 1529) valued at over \$143,000 in three cases (B052572, B156528, B311058).
 - Commerce licensed the largest approval (B052572), valued at over \$132,000, without an end use statement.
 - Commerce referred only one of the three cases to the Energy Department, although all three were on the Nuclear Referral List.
 - Commerce made no referral to the State Department, despite the fact that this item appears to be on the missile technology control list, and one of the cases was approved in 1988 after the list went into effect.

Sa'ad General Establishment: A division of SOTI. Self-described as "a state organization specialized in the planning and erection of large industrial complexes for the Government of Iraq," Sa'ad does not operate any of the contracted facilities itself.¹⁵ According to MidEast Markets, Sa'ad only does work on military projects. Contracted for the construction of Sa'ad 16 at Mosul.

- Total approvals: \$1.1 million, including:

1. Computers (ECCN 1565) valued at more than \$450,000 in seven cases (B177669, B224682, B265627, B271629, B350736, E000057, E002881).
 - No referral to the Energy Department, as required for items on the Nuclear Referral List.
2. Precision electronic and photographic equipment (ECCN 6599) valued at \$290,000.

Monsour Factory (or Al Mansour): Linked to SOTI and served as a procurement agent, according to U.S. officials, for the SCUD enhancement facilities at Al-Fallujah and Al-Hillah, and the space launch center at Al-Anbar. According to press reports, purchased a high-speed oscilloscope from Tektronix.

- Total approvals: \$5.2 million, including:

1. Electronic manufacturing equipment (ECCN 1355) valued at \$4.2 million.
 - No referral to the State or Energy Departments.
 - This equipment enables domestic production of transistors and diodes for use in computers and other electronics, including military systems such as communications and radar.
2. Electronic measuring, calibrating and testing equipment (ECCN 1529) valued at \$644,000.
 - No referral to the Energy Department, as required for items on the Nuclear Referral List.
 - No referral to the State Department, despite the fact that this item appears to be on the missile technology list and was approved in October 1989 after the list came into effect.
3. Computers (ECCN 1565) valued at \$354,000 and \$12,000.
 - No referral to the Energy Department, as required for items on the Nuclear Referral List.

4. Superconductive electromagnets (ECCN 1574) valued at \$8,280.
 - No referral for outside review.

Ministry of Industry and Military Industrialization (MIMI), formerly Ministry of Industry and Minerals: Run by Saddam Hussein's son-in-law Hussein Kamil al-Majid, with overall responsibility for Iraq's nuclear, missile and chemical weapon programs. MIMI ordered furnaces, the sale of which was blocked by the White House in June 1990 because of Iraq's plan to divert the furnaces to nuclear weapon production.

- Total approvals: \$8.5 million, including:

1. Computers (ECCN 1565) in twenty cases valued at almost \$8 million.
 - No referral of 19 of the cases to the Energy Department, as required for items on the Nuclear Referral List.
 - Commerce referred one case, valued at \$29,300, to the Departments of State and Energy, but approved another valued at \$488,000 unilaterally.
2. Computer-controlled machine tools (ECCN 1091) valued at \$525,000 (case D064342).
 - Departments of State and Energy approved in January 1990.

Nassr State Enterprise for Mechanical Industries (or Nesser Establishment for Mechanical Industries): Part of the Ministry of Industry and Military Industrialization (MIMI), described above. Nassr procured equipment for Project 1728, a SCUD modification effort; was involved in Iraq's nuclear program; was the procurement arm for Taji, a site used to produce chemical munitions; and, according to Western intelligence documents, was "responsible for the development and manufacture of gas centrifuges for uranium enrichment."¹⁶ Nassr also ran artillery ammunition plants; purchased "high-capacity driving nozzles" for missiles from a German company; may have been a part of the European procurement network run by Iraqi front company TDG in London; was the main customer of Matrix Churchill, another Iraqi front company in England; and was linked to the Condor II intermediate-range missile project.

- Total approvals: \$1.8 million, including:

1. Computers (ECCN 1565) valued at \$1 million.
 - State Department approved in mid-1988.
 - No referral to the Energy Department, as required for items on the Nuclear Referral List.

2. Computer-controlled machine tools (ECCN 1091) valued at \$888,000 (case B281441).
 - Energy Department approved in February 1988.

Al-Qaqa State Establishment: Part of MIMI. Responsible, at least in part, for Iraq's nuclear weapon program. According to Western intelligence, this center was "concerned with the development of the non-nuclear components of nuclear weapons."¹⁷ The intelligence report also states that Al-Qaqa had experience with modern high explosives and high-speed measurements, both of which are necessary to develop nuclear weapons. In March 1990, customs officers at Heathrow Airport in London seized a case of capacitors bound for Al-Qaqa that were especially designed for detonating nuclear warheads.

- Total approvals: over \$200 thousand, including:

1. Computers (ECCN 1565) in three cases valued at \$200,000.
 - No referral to the Energy Department, as required for items on the Nuclear Referral List.

Technical Corporation for Special Projects (Techcorp): Also part of MIMI. Operated Sa'ad 16. Responsible for the SCUD modification project and development of the Condor II missile. Also purchased parts for the Iraqi supergun.

- Total approvals: \$61,300, including:

1. Two computers (ECCN 1565) valued at \$16,980 and \$44,320.
 - No referral to the Energy Department, as required for items on the Nuclear Referral List.

University of Mosul: Site of and procurement agent for Sa'ad 16 (also referred to as "Research & Development Center"), Iraq's major missile research and development center, where work was done on the Condor II and SCUD modification as well as research on chemical and nuclear weapons. According to European news reports, the German company that supplied Sa'ad 16 described the project as a "laboratory and workshop complex [that] will be run in cooperation with Mosul University."¹⁸

- Total approvals: over \$1.8 million, including:

1. Equipment for enhancing satellite images, including computers (ECCN 1565) valued at \$1 million and related equipment (ECCN 4590) valued at \$27,800.

- Commerce Department approved the related equipment (ECCN 4590) in June 1985 without external review.
 - This equipment enhances photographs taken by satellites. The enhanced photos can be used to improve targeting by missiles or aircraft, or for other reconnaissance objectives. The licensee, International Imaging Systems of Milpitas, California, did not ship the equipment approved in 1990. However, on two previous occasions, International Imaging sent shipments to Iraq. In 1981, an image processing system went to the Iraqi Directorate General for Geological Survey and Mineral Investigation, and in 1987 a similar system went to the Space and Astronomy Research Center in Baghdad.¹⁹
2. Viruses and viroids (ECCN 4997) valued at \$1.
 - Commerce Department approved in December 1987 without external review.
 3. Computer (ECCN 1565) valued at \$483,000.
 - Approved (case B062253) without referral to the Energy Department, as required for items on the Nuclear Referral List.

Research and Development Center: Another name for Sa'ad 16, Iraq's main missile research and development site at Mosul.

- Total approvals: \$927,000, including:

1. Measuring, calibrating, and testing equipment (ECCN 1529) valued at \$870,000 in two cases (B060729 and B075875).
 - No referral to the Energy Department, as required for items on the Nuclear Referral List.
 - The Defense Department objected at the staff level but did not escalate its objections before Commerce approval.
 - This equipment can be used to test and develop microwave circuits for missile guidance radars and microwave communications. One licensee, Wiltron of Morgan Hill, California, sold a scalar network analyzer using a radio frequency of up to 40 GHz to test and develop these circuits. According to one report, the Department of Defense tried to stop an approval valued at \$49,510 in November 1986, but the Commerce Department licensed the export the following January.

2. Communicating and tracking equipment (ECCN 1502) valued at \$3,000.
 - No referral to the Energy Department, as required for items on the Nuclear Referral List.
3. Radio spectrum analyzer (ECCN 1533) valued at \$45,664.
4. Computers (ECCN 1565) valued at \$10,228.

Hutteen General Establishment: Iraqi government organization that purchased large-caliber artillery shell cases from Spain and Germany that could be filled with chemical payloads.

- Total approvals: over \$1 million, including:

1. Computers (ECCN 1565) in four cases (B249146, B322679, D030887, D014317) valued at over \$1 million.
 - No referral to the Energy Department, as required for items on the Nuclear Referral List.

Badar Establishment of Mechanical Engineering (or Bader General Establishment): A military enterprise responsible for producing aerial bombs.

- Total approvals: \$2 million, including:

1. Computer (ECCN 1565) valued at \$1.6 million.
 - Departments of Energy and State approved from March 1988 to June 1988.
2. Technical model (ECCN 9999) valued at \$ 373,708.
 - No referral for external review.

Salah al Din Establishment (originally called Saad 13; apparently also called University of Salahaddin): A military electronics factory built by the French company Thomson-CSF. Manufactures three-dimensional early warning radars under license from Thomson as well as other Thomson military telecommunications equipment. Some electronic countermeasures and inertial guidance components were also made here.

- Total approvals: over \$1.6 million, including:

1. Quartz crystals and assemblies (ECCN 1587) valued at \$1.1 million (case B290664).
 - Commerce approved without external review, despite the fact that this item is on the missile

technology control list and was approved in January 1988 after the list went into effect. The stated end use was components for a radar system.

2. Frequency synthesizers and equipment (ECCN 1531) valued at \$140,000 (case D055821).
 - Approved without external review, despite the fact that this item is on the missile technology control list and was approved in November 1989 after the list went into effect.
 - The stated end use of this item was for "calibrating, adjusting and testing of a surveillance radar," which could function as a ground support system for nuclear-capable missiles.
3. Navigational, radar, airborne communication, and mobile communication equipment (ECCN 6598) valued at \$115,000 (case D092873).
 - Approved without external review in April 1990.
4. Communication, detection, and tracking equipment (ECCN 1502) valued at \$1,825.
 - Energy Department approved in February 1987.
5. Computers (ECCN 1565) in three cases valued at \$130,000.
 - Energy Department approved all three cases.
6. Measuring, calibration, and testing equipment (ECCN 1529) valued at \$7,375 (case D066127).

Endnotes

1. "BXA Facts" (press release), U.S. Department of Commerce, Bureau of Export Administration, March 11, 1991. The list covers a period from 1985 to August 2, 1990, when Iraq invaded Kuwait, and reveals that three of the approvals were for over \$1 billion worth of cargo trucks, which were not shipped. Id. at p. 3. See also, Stuart Auerbach, "\$1.5 Billion in U.S. Sales to Iraq," Washington Post, March 11, 1991, p. A1; Michael Wines, "U.S. Tells of Prewar Technology Sales to Iraq Worth \$500 million," New York Times, March 12, 1991, p. A13.
2. Mark Hibbs, "Components For Pakistan Were Intended For High-Enriched U, German Confirms," Nuclear Fuel, May 18, 1987.
3. Mark Hibbs, "Intelligence Reports Identify Two Sites as Key to Iraqi Weapons Program," Nuclear Fuel, January 21, 1991, p. 3.
4. "Involvement in Iraqi Gun Factory Reported," Der Spiegel (Hamburg), July 9, 1990, pp. 54-56, translated in JPRS/TND, July 18, 1990, pp. 35-37.
5. United States Government Accounting Office, "Arms Control: U.S. Efforts to Control the Transfer of Nuclear-Capable Missile Technology" (Report to the Honorable Dennis DeConcini, U.S. Senate), GAO/NSIAD-90-176, p. 14.
6. N.B. Namody, Director of the Saad General Establishment, letter of February 27, 1985 to Gildemeister Projecta, describing the 76 laboratories at the Sa'ad 16 Research and Development Center.
7. Sa'ad General Establishment, letter of May 3, 1986 from H. A. Al-Dahan to Gildemeister Projecta.
8. U.S. Department of Commerce, Memorandum to John Knofala from Willard A. Workman, August 12, 1986.
9. Quartz crystals are missile technology items if "usable as launch and ground support equipment" under commodity control number (ECCN No.) 1587. See Part 779, Supplement Four, U.S. Export Administration Regulations (April, 1987).
10. See Part 779, Supplement Four, U.S. Export Administration Regulations (April, 1987).

11. U.S. Export Administration Regulations, Supplement No. 1 to Part 778, p. 1.
12. U.S. Export Administration Regulations, Sections 776.18 (missile technology) and 778.4 (nuclear technology).
13. Henry Weinstein, "Despite Warning, U.S. Okd Sale of Missile Part to Iraq," Los Angeles Times, April 9, 1991. p. A7.
14. Id.
15. Sa'ad General Establishment, letter of May 3, 1986 from H. A. Al-Dahan to Gildemeister Projecta.
16. Mark Hibbs, "Intelligence Reports Identify Two Sites As Key to Iraqi Weapons Program," Nuclear Fuel, January 21, 1991, p. 3.
17. Mark Hibbs, "Intelligence Reports Identify Two Sites As Key to Iraqi Weapons Program," Nuclear Fuel, January 21, 1991, p. 3.
18. "A Civilian Project of Mosul University," Stern (Hamburg), January 26, 1989. See also Alan George and Herbert Lansinger, "Rocket Merry-Go-Round," Profil (Vienna), March 20, 1989, pp. 36-38, translated in JPRS/TND, May 5, 1989, pp. 31-34.
19. International Imaging Systems, press statement, January 29, 1991.

Senator BINGAMAN. Let me start by asking the other two witnesses about this last suggestion.

SHOULD APPLICATIONS BE PUBLIC?

Mr. Freedenberg, do you agree that it would make sense for Congress to direct that all these applications and the decisions as to these applications be made public?

Mr. FREEDENBERG. Well, when I began working in export controls in 1979 with Senator Stevenson handling the bill—the Export Administration Act of 1979—there was a major debate about section 12C—the complaints that the exporting community had was that the Journal of Commerce was publishing all this material; and that since a license doesn't mean an export, it just means that you're approved to export. It was disadvantaging U.S. exporters, and it was giving the competitors the ability to sell to that end user, to essentially find out what the U.S. sales were.

I think the trade deficit at that time was about \$5 billion, and I remember writing many speeches about how that was intolerable. It has since grown significantly.

That would be an alternative. It would do two things. First of all, it would do what the Congress outlawed in 1979. It would also give various citizens groups the ability to pressure those companies to stop sales. In 1979, there were many attempts to stop all U.S. trade with the Soviet Union, because there were still some exports to the Soviet Union of very low-level technology. Nevertheless, there were going to be boycotts of any companies that made those sales.

So those are the sorts of things that you would open yourself up to, but obviously if Congress thought that was a good idea, I think you would just have to measure the pluses and the minuses of it.

Senator BINGAMAN. Let me ask Mr. Bryen, first, for his thoughts about that suggestion.

Mr. BRYEN. Sure. First is 12C, this provision of the Export Administration Act, has not only been used to conceal from the public, but it has been used to suppress debate inside the administration. It makes it impossible for a member of the administration to come up to a congressional committee and testify about a license application that might be controversial. So it's designed to suppress information.

Senator BINGAMAN. Let me just ask for my own information, does 12C prohibit that information from being released for a certain period of time, or is there no cutoff.

Mr. BRYEN. There is no cutoff. It's much worse than the classification laws for national security, which have 7 years as the time limit.

Senator BINGAMAN. If we were to change it and limit it to a certain period of time. I mean, if we were to say that the process of approval

would occur without everybody being involved, that the decision would have to be public so many days, or so many months, after the decision was announced, what would be an appropriate timeframe, or does that not make sense to do it that way?

Mr. Milhollin, maybe you should respond. It was your suggestion.

Mr. MILHOLLIN. Well, if I could single handedly decide this issue, I guess I would consider making the process of decision open, but I don't think the support for that can be mustered. So I would be content simply to find out what happens 3 months afterward. I would like to see quarterly reports or semiannual reports on licenses that have been approved. That is, after the process is finished and approval is made, I would like to see a report within 3 months or 6 months after that time.

Mr. BRYEN. Could we come back to one point on this. The fact is that licenses shouldn't be issued on speculation. They ought to be issued, or considered after a company has a contract in hand. Most legitimate companies are proud to announce contracts of this sort—trade deals. I mean, it's the ones that aren't proud to announce it that benefit. It's the shady deals, the crummy stuff that's kept from the public, and that is why I think it ought to be out on the table, and there shouldn't be any time limit.

Senator BINGAMAN. You think that even the fact that a person has filed an application for a license should be public knowledge even before a decision is made on it?

Mr. BRYEN. Well, I think the rules have to be clear on the basis. In other words, you should file for a license after you have a contract, or after you have a purchase order for the goods so no one is going to come, you know, to state in public what amount you got paid. I don't think that's the issue. The issue is you have applied for an export license for a certain type of commodity to go to a certain end user. I would like to see that public. I don't see what harm it could bring to good companies.

Senator BINGAMAN. Mr. Freedenberg, do you agree that even the process of application should be made public, or do you think that something that would allow the application to be filed and the decision to be made, and then have a 3-month delay would make more sense?

Mr. FREEDENBERG. I don't think the world would come to an end if you published these things after, for example, a sale was made, but I think you don't want to give extra information to foreign competitors for sales. The license expires after 18 months, and you might need to have some period in which you find out whether the sale is final before you have any information made public. Essentially, I don't think the world comes to an end on it.

The debate was a very serious one back in 1979, and there might be some reasons for changing it, and I don't know that you can't necessarily defend these things. They do leak out anyway. So I don't think it's

a major issue. But I also don't think it's going to make a major change in policy.

Mr. BRYEN. The other point is that you end up having the Government, in a sense, in a conspiracy to deny to the stockholders of public companies information about how their public company is being run. That's one of the outcomes of all of this.

Mr. MILHOLLIN. Mr. Chairman, I would like to add one comment. I think my dealings with industry have led me to believe that industry knows very well who is bidding on what. You find me a computer salesman who doesn't know what his competitors are selling and to whom, and I'll show you an unemployed computer salesman. These companies know very well what their competitors are doing and what the market is. So the idea that the Government is going to be the entity that informs companies about their competitive situation—well, I think that's unrealistic. I think they already know very well what their competitors are up to.

A NEW CoCOM?

Senator BINGAMAN. On the suggestion that Mr. Freedenberg made for a CoCom, a new type of CoCom——

Mr. FREEDENBERG. A non-CoCom CoCom I would call it. That is a separate organization.

Senator BINGAMAN. Right. How do you see the MTCR relating to that?

Mr. FREEDENBERG. I think the MTCR could be a major part of it. In fact, that is one of the major things we have to control. Obviously, the Iraqi war showed that. I think one of the points that was made by Mr. Milhollin is that he sees the analysis of certain products as being on the list. The U.S. Government historically has been tougher than its allies. That's something that Mr. Bryen would agree with. The problem that we have is that we don't have a way of resolving disputes in this area.

So if you had an organization that was ongoing in which we could bring up licenses that were pending and argue it out, particularly in something going to a place like Iraq, or Libya, or whatever in the future, you would have a more effective administration of that.

Our security, as pointed out in the Persian Gulf war, is very much related to having a tight administration of the MTCR. The whole idea of the MTCR is to make sure missile proliferation doesn't increase, and that we don't have new Third World powers. The best way to do it, in my opinion, is to have an ongoing organization that handles it.

Senator BINGAMAN. Do either of the other witnesses have a comment on that suggestion?

Mr. Milhollin.

Mr. MILHOLLIN. I think we obviously need some kind of a tough, effective, multilateral system for controlling exports from the developed countries to the undeveloped countries in this field. I myself suggested, I think, about 6 months ago a non-CoCom CoCom or reformulating CoCom, which is in search now of a mission, to accomplish this end.

One of the nice things about CoCom is it has a history, it has a structure, it has a way of operating, and these other regimes don't. I mean they have been recent inventions, and they are fairly loose.

Senator BINGAMAN. Isn't the point that that may be a virtue, but isn't it also a problem in that you have an organization now with CoCom that has a certain group of members and a mission that it has been working out here for decades; and you're now coming in and saying, OK, we're going to change your mission and we're going to add additional members. I mean, is it realistic to think that it's easier to take the existing CoCom and make it what you would want it to be rather than just start fresh and do a new entity?

Mr. MILHOLLIN. Well, that's a difficult question. I would say though that we shouldn't deregulate things in CoCom as we're doing hastily until we have something to replace it with. I think Mr. Freedenberg makes this point that CoCom has wound up being, without intending to be, the main barrier to nonconventional dual-use technology transfers to the Third World. What we are doing is getting rid of it before we have come up with anything to put in its place, and that's a serious mistake, in my opinion. I think we ought to stop that process until we come up with whatever device it is that we come up with.

Senator BINGAMAN. Mr. Bryen.

Mr. BRYEN. Well, I think that's absolutely right. CoCom is under attack right now, and the control list that CoCom has is very vital to what the European governments and we ourselves use as the basis of our national export controls. If you change that, then all these goods—computers, quartz crystals, for example—are just going to be thrown out to the world without license. So this whole discussion may be academic in another month. We may not have to talk about proliferation controls any more, because we will have succeeded in assuring a massive amount of proliferation of technology because of what is going on in CoCom as we speak.

Mr. FREEDENBERG. That's the point I was making. CoCom still has a purpose. It has a purpose of controlling the high technology of the industrialized world in a very regulated way. So you don't want to get rid of CoCom. You want to keep that going. But you can have a second organization that would have a broader membership and that would have an ongoing sort of plenary session, so that you could discuss some of these proliferation issues. You can do that within CoCom and retain the identity of CoCom, which I think we still need.

Senator BINGAMAN. You know, the problems of trying to enforce CoCom are to allow CoCom to be what it has historically been. With the changes taking place in Eastern Europe and all the rest of it, it just seems to me monumental to try to think that we could maintain CoCom in anything like the posture that it has historically been in. I don't know.

Mr. FREEDENBERG. If I could make one comment.

Senator BINGAMAN. Yes, go ahead.

Mr. FREEDENBERG. In the years that Mr. Bryen and I served, it did expand to non-CoCom members. We got good cooperation out of the rest of the Free World, and that helped on the proliferation issue. Essentially, it is an effective organization as a result of cooperation of places like Singapore and Korea, and a lot of other places that got involved—even India and Pakistan, perhaps not as effectively, but certainly they were brought under its control. So what we want to do is try to create an entity that does that with proliferation.

The other side of it is if we decontrol too much, the big risk is that it gets diverted, because it goes to a country that doesn't have a very effective control system.

Senator BINGAMAN. Mr. Bryen.

Mr. BRYEN. That's critical. I mean there is a linkage, and it's a very close linkage, between what CoCom does, what it does and what we're trying to do in this nonproliferation area; and because they are so closely tied, to create another institution, you're going to have to interface them anyway if you're going to get any performance. So why not just do it all in the same place. That I think makes some sense. I don't think anyone—I mean CoCom does not inspire cheering. It's a tedious organization.

Senator BINGAMAN. There is very little in this subject area that does that I've run across.

Mr. FREEDENBERG. My only point there is that I would like to see it done quickly. I think you would have great resistance at the moment from a number of the Europeans who don't want to have CoCom change its character. So I suggest the second organization. The whole idea is to have the same purpose, but also to remain what I see to be the East-West character, which is now gone. I mean we still have things we don't want to sell to the Soviet Union and China, for example. We've changed our attitude about most of Eastern Europe, but certainly not the Soviet Union and China. So we don't want to get rid of the whole CoCom structure, and the best of a number of bad alternatives is to create a second institution.

Mr. MILHOLLIN. If you talk about this subject with the Europeans and you ask them specifically what things they control and under what methods, they basically get out the CoCom list. So I think Mr. Bryen has made a good point, which I started to make, which is that once we drop all this stuff off the CoCom list, it's going to be gone. To get these

countries to put it back on some other list is going to be tough, because they have never been thrilled about CoCom anyway. So I think we've made a big mistake in agreeing so easily to get rid of most of the things controlled by CoCom.

Senator BINGAMAN. Well, gentlemen, I could ask a lot more questions here, but you've been very patient and generous with your time, and I appreciate it. We may have another question or two to submit to you for the record. I do appreciate your taking the time, and I think it has been excellent testimony.

We will keep the record open so that Senator Roth can submit a statement he wants to.

[The written opening statement of Senator Roth follows:]

WRITTEN OPENING STATEMENT OF SENATOR ROTH

Mr. Chairman, I want to commend you for holding this timely and important hearing. In the Persian Gulf, the world continues to have a graphic display of the threat posed by malicious dictators who take advantage of the increasingly unrestrained global arms market.

Much attention has been devoted to the proliferation of nuclear, chemical, and biological weapons. In addition, these efforts have attempted to control the proliferation of missile technologies -- a key ingredient in the recipe for delivering such weapons of mass destruction. I think we can all agree that more needs to be done in these areas, especially with regards to implementation of recent legislation and Administration initiatives. But, before Congress overreacts to current news stories, there ought to be a short pause to assess how well resources are being focused on problem areas as the new controls are being implemented.

I have become disturbed at today's booming conventional weapons market, which too often operates like an "open-air drug market". The easy availability of conventional weapons became more apparent to me while I was conducting an investigation into the notorious cocaine cartels of Columbia. I found that a broad range of advanced technology weaponry has been funnelled to terrorist groups, Third World despots, criminals, and insurgent groups. In addition, there are many government-to-government arms sales of advanced weaponry, such as France's sale of Mirage fighter jets to Iraq, that may be used in the future against American fighting men and women.

While I agree that we must be concerned about the proliferation of weapons of mass destruction, we cannot ignore the fact that countries involved in about 170 local conflicts during the last 45 years have relied on conventional arms supplied by the global arms market. Saddam Hussein's huge store of weapons, acquired from at least 10 different countries, posed a much greater hazard to American interests in the Gulf region than did his unused arsenal of chemical weapons. The data clearly indicate that conventional weapons are a key component of regional instability, yet they have been largely ignored in discussions of arms proliferation. As the world goes through a range of lessons learned in the wake of the Persian Gulf war, Congress ought not forget the inherent risks of the global conventional arms market.

A second concern that I have is the availability of data for effective nonproliferation efforts. Obtaining more timely data on arms transactions is an imperative for all nonproliferation efforts -- nuclear, biological, chemical, or

conventional. If such data are available prior to a country actually receiving weapons, there is a broad range of preventative actions that can be undertaken. For example, the supplying county can be persuaded to stop production or the shipments can be diverted. However, it is a much more difficult problem once the arms have been received, since at that point they affect the balance of power. It is often argued that countries have a sovereign right to conceal such data. But, the consensus of the literature and the history of arms control agreements entered into by the United States demonstrates the importance of verifiable data. In particular, Congress must have more accurate data on the extent of the global proliferation problem before it attempts to revise recent laws and Administration activities. Let's face it, we can only stop the flow of arms if we know where they are coming from and where they are going.

Third, Mr. Chairman, it is important to point out that this is a multi-national problem. Congress can continue to pass all kinds of laws to stop the flow of technology out of America, but that will not prevent Argentina or South Africa from supplying high technology weapons to the next Saddam Hussein. The global arms trade has become more freewheeling and wide-open than in the days of the Cold War. Back then, U.S.-Soviet polarity had ensured rigid "discipline" on arms transactions, with Soviet allies staking out customers within their bloc, and Western nations adhering strictly to sales within their own alliances. Those traditional alignments and channels have now been dissolved. Nations exporting arms are more likely to find customers on the basis of who has the money and who wants to buy. Arms trading is less predictable, more complex, and more volatile than at any time in the last forty years.

Now, with the governments of France and Germany feeling embarrassed by revelations that French and German companies sent arms to Iraq, America has unique opportunities to engage in multi-lateral efforts to constrain the flow of weapons. I look forward to the testimony of today's witnesses on this topic.

I personally think that there is much to be done after these hearings are over. Those of us in Congress and other members of government need to start thinking about how a verifiable monitoring system could be created. If we had access to valid information, multinational solutions could be found to address de-stabilizing or threatening arms trades. We need to look at the question globally -- to focus resources on those nations that need better prohibitive laws or better enforcement methods. At the same time, we ought to give the Administration credit for reducing arms sales over the last decade.