REVIEW OF GAO REPORT ON THE NUCLEAR NON-PROLIFERATION ACT OF 1978

HEARING

BEFORE THE

SUBCOMMITTEES ON
INTERNATIONAL SECURITY AND
SCIENTIFIC AFFAIRS

AND ON

INTERNATIONAL ECONOMIC POLICY
AND TRADE

OF THE

COMMITTEE ON FOREIGN AFFAIRS
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REVIEW OF GAO REPORT ON THE NUCLEAR NON-PROLIFERATION ACT OF 1978

THURSDAY, MAY 21, 1981

HOUSE OF REPRESENTATIVES, COMMITTEE ON FOREIGN AFFAIRS, SUBCOMMITTEES ON INTERNATIONAL SECURITY AND SCIENTIFIC AFFAIRS, AND ON INTERNATIONAL ECONOMIC POLICY AND TRADE,

Washington, D.C.

The subcommittees met at 10 a.m. in room 2255, Rayburn House Office Building, Hon. Clement J. Zablocki (chairman of the Subcommittee on International Security and Scientific Affairs) Presiding.

Chairman ZABLOCKI. The subcommittees will please come to order. This morning the Subcommittees on International Security and Scientific Affairs and on International Economic Policy and Trade will hear testimony from representatives of the General Accounting Office concerning their 3-year review of the impact and implementation of the Nuclear Non-Proliferation Act—NNPA—of 1978. The act forms an integral part of U.S. efforts to confront the threat of nuclear weapons proliferation.

It is an essential task. Today we are faced with the prospect of a nuclear arms race in Southwest Asia, and some countries of real concern have refused to forgo the development of nuclear weapons. The acquisition of nuclear weapons by additional countries or terrorist groups endangers the security of all countries and makes the maintenance of a stable world all the more difficult. The proliferation of nuclear arms to sensitive, potentially unstable regions of the world would vastly complicate U.S. efforts to come to the defense of threatened countries or to protect vital resources.

Largely through the efforts of the United States and other concerned countries, progress has been made toward safeguarding the world from this threat. The Nuclear Non-Proliferation Treaty—NNPT—has been ratified by 115 nations, and most countries in Latin America have moved to establish a nuclear-weapons-free zone in that part of the world. With more intensive efforts like those embodied in the NNPA, this trend will continue.

The subcommittees welcome this morning Mr. Frank C. Conahan and Mr. J. Dexter Peach, Directors respectively of GAO's International and Energy and Minerals Divisions.

I now call on the chairman of the Subcommittee on International Economic Policy and Trade for his statement.

Mr. BINGHAM. Thank you, Mr. Chairman.

I am pleased today to welcome our two witnesses from the General Accounting Office to review for us the results of GAO's intensive, 3-year study of the Nuclear Non-Proliferation Act of 1978.

As you know, the NNPA was reported by this committee, and we have closely monitored and contributed to its implementation over the years. I am pleased, therefore, that it was possible to arrange with the GAO for the public release of their report before this forum.

I welcome GAO's central conclusion that no major changes to the NNPA are needed, and furthermore, quoting from your report:

> That unwarranted and massive changes to NNPA provisions could reinforce foreign perceptions that U.S. nonproliferation policy is subject to unpredictable and unnecessary shifts, and might send incorrect signals abroad that the U.S. nonproliferation resolve is weakening.

Most importantly, in my mind, GAO has underscored the need for the NNPA's full-scope safeguards and timely warning standards, and has recognized the many benefits of having truly independent Nuclear Regulatory Commission—NRC—involvement in export decisions. On this last point, I certainly expect your report will lay to rest previous, unsubstantiated efforts to remove NRC from the export licensing business.

I intend to review carefully each of GAO's limited recommendations for further improving the administration of the NNPA. At the same time, I also share the GAO's finding that the most pressing task at hand is to develop a coherent, long-term post-INFCE U.S. nonproliferation policy. This effort, as you point out, does not and should not require substantive changes to the NNPA, and should reflect the gravity of the threats to U.S. security interests of further weapons proliferation.

Chairman ZABLOCKI. We will hear from our witnesses at this point. We call upon Frank C. Conahan, Director of the GAO International Division.

STATEMENT OF FRANK C. CONAHAN, DIRECTOR, INTERNATIONAL DIVISION, GENERAL ACCOUNTING OFFICE (GAO)

Mr. CONAHAN. Thank you, Messrs. Chairmen. With me also are Mr. William McGee and Mr. Joseph Murray, Codirectors of the Task Force that completed the work before us.

Inasmuch as you gentlemen accurately summarized the principal findings and recommendations of our report and in the interest of time, perhaps I could submit our entire statement for the record and present a shortened version at this time.

Chairman ZABLOCKI. Without objection the prepared statement will be part of the record.

Mr. CONAHAN. International cooperation, of course, is the key to limiting the spread of nuclear weapons. No nation can unilaterally resolve the proliferation dilemma. Therefore, we believe certain amendments to the act and improvements in executive branch implementation are needed to obtain wider international acceptance of U.S. nonproliferation objectives to make the act better conform with political, technical, and economic realities, and preserve the framework for curbing proliferation associated with nuclear cooperation.

SUMMARY OF GAO FINDINGS

I will briefly summarize our findings regarding the implementation and impact of each of the act's present titles. Title I states that the United States shall take the necessary steps to assure that adequate supply of nuclear fuel is available to nations with effective nonproliferation policies. The purpose of such assurances is to persuade other nations not to acquire their own uranium enrichment or processing capability prematurely and make more palatable the nonproliferation measure called for elsewhere in the act. Title I has offered little incentive to other nations to agree to these additional nonproliferation measures.

To assure other countries that the United States will have sufficient supplies of fuel, the Department of Energy—DOE—is constructing additional enrichment capacity, including a $6.4 billion centrifuge facility. However, it is not apparent that such additional capacity is needed to meet foreign demand or further U.S. nonproliferation objectives because a worldwide surplus of enrichment capacity now exists and is expected to continue.

Although DOE believes that the additional enrichment capacity can be justified, we believe, for a number of reasons, that the need for the centrifuge facility has diminished since the Congress originally authorized it in 1975. We believe that Congress should take a close look at DOE's budget request for completing this facility.

With regard to the international initiatives called for in the act, GAO found that limited progress has been made. Although the International Atomic Energy Agency is addressing the concept of multinational nuclear fuel supply assurances, the United States has not fully supported this effort.

The act also states that the executive branch should explore the establishment of international spent fuel repositories. While some discussions have taken place concerning an international facility, much more complicated and time-consuming negotiations must take place before the concept is approved by the international community—much less construction of a facility started.

A closely related issue concerns proposed international controls over plutonium. To reduce the proliferation risks created by scattered plutonium stockpiles, an international control system over excess plutonium is needed. However, the United States has not given active support to the proposed international plutonium management and storage regime.

We believe that the United States should actively participate in and support the IAEA committees addressing concerns over fuel supply assurances, international spent fuel management, and international plutonium storage.

To provide certain nations with a credible alternative to reprocessing, the United States offered to accept limited quantities of foreign spent fuel for storage. The act provides a mechanism to carry out this offer. However, the lack of followthrough over the last 3 years has demonstrated that the offer does not provide other nations a credible alternative. We believe the executive branch should make a current assessment of the offer to accept foreign spent fuel.

TITLE II—U.S. CONTRIBUTION TO IAEA SAFEGUARDS

Title III calls for U.S. contributions of financial, technical, and other resources to assist IAEA in the effective implementation of safeguards. In our opinion, title II represents a strong commitment to the international nonproliferation regime and no change to it appears necessary. We found that intensified U.S. efforts to upgrade IAEA safeguards have had some positive results but they have not yet had as significant an impact as had been hoped and that IAEA safeguards need further improvement.

In our recent classified report to the House Foreign Affairs and Senate Foreign Relations Committees, we discuss in detail several technical and political factors hindering IAEA's application of safeguards.

Moreover, there are financial constraints on IAEA's increasing safeguards responsibilities. The United States and a few nations have provided special assistance for safeguards. Other nations support safeguards in theory but are less supportive financially. Many member nations maintain that IAEA's financial resources should be used primarily for technical assistance to less developed nations and to promote peaceful uses of nuclear energy.

We recommend that the Secretary of State work together with other world leaders and IAEA officials, to develop a multinational plan to overcome the technical, political, and financial problems impeding effective application of international safeguards.

TITLE III—EXPORT LICENSING CRITERIA

Title III establishes new export licensing criteria for U.S. nuclear exports. It also directs the Nuclear Regulatory Commission—NRC—and other Federal agencies to adopt procedures for the timely processing of export license requests and other export authorizations.

Operation of the present licensing system has improved since 1978. However, further changes are still needed to make the system function better. Accordingly, we are proposing a number of changes and clarifications.

Several of our recommended changes should help meet the legitimate needs of U.S. nuclear trading partners for supply assurances and the U.S. nuclear industry's need for timely and predictable Government decisions. They are essentially aimed at establishing a more focused system in which the nonproliferation credentials of a recipient and the potential weapon sensitivity of an export would dictate whether a license application is reviewed on a streamlined basis. This would increase executive branch flexibility to facilitate nuclear trade with our allies and major trading partners, and help center U.S. nonproliferation efforts on nations posing greater risks. Our recommendations are fully detailed in our report.

NRC SHOULD KEEP EXPORT LICENSING FUNCTIONS

The role of NRC in title III's nuclear export licensing process has been a matter of considerable debate. Arguments for its removal from the process have been advanced by the U.S. nuclear industry, the nonproliferation transition team, and certain NRC Commissioners. We did not find sufficient justification to recommend

NRC's removal, given past indications of congressional intent and NRC's recent performance. However, because the continued role of NRC in the export licensing process may represent a legitimate national policy issue that the Congress may wish to reexamine, our report discusses some alternative arrangements.

U.S. APPROVAL RIGHTS

I would like to turn now to the matter of U.S. approval rights over foreign reprocessing and plutonium use. In April 1977, President Carter changed the direction of the U.S. nuclear program by deferring U.S. commercial reprocessing and the use of plutonium. The executive branch urged other nations to adopt similar policies.

The U.S. reprocessing policy causes some foreign countries real concern because the United States generally has prior approval rights over the reprocessing of spent U.S.-supplied nuclear fuel and the resulting plutonium, and is seeking to expand these rights. The manner in which the United States exercises these rights is very important to many U.S. trading partners who believe that reprocessing is vitally needed. These nations do not share the view that deferral of reprocessing is needed to control proliferation.

Title III of the law, which establishes standards for approving foreign reprocessing requests, states that nothing in that section was intended to prohibit, permanently or unconditionally, the reprocessing of U.S.-supplied fuel by a foreign nation. It also recognized that a 66-nation international nuclear fuel cycle evaluation—INFCE—was underway to study the proliferation risks of reprocessing and other alternatives.

That study, which was completed in February 1980, generally repudiated the U.S. policy on prior approval for foreign reprocessing. Nevertheless, the executive branch has not yet reconsidered its policy. We think it should. In the meantime, we believe the executive branch should, in considering foreign reprocessing requests, follow the criteria set forth in the act and drop the additional executive branch requirement that the requester show an actual physical need to reprocess the spent fuel.

TITLE IV—NEGOTIATIONS FOR PRESENT AND FUTURE AGREEMENTS

The next title—title IV—expands U.S. criteria for future agreements for peaceful nuclear cooperation and directs the President to attempt to change existing agreements to comply with the new criteria. Although the executive branch has made an extensive attempt to renegotiate existing agreements, much of this task has not been completed. There has been a general foreign reluctance to renegotiate.

Since the act was passed, previous agreements with Australia, Canada, Indonesia, and IAEA have been revised or replaced. New agreements have been completed with Peru, Morocco, and Colombia; agreements with Egypt and Bangladesh have been initialed. However, previous agreements with 17 nations and Euratom have yet to be revised.

Nations have been reluctant to renegotiate for various reasons, including concern over U.S. prior approval rights and perceived U.S. "unilateralism" in revising the ground rules for cooperation.

Some nations deferred renegotiation until after INFCE was completed or until the United States had revised other agreements. Others were unwilling to accept international safeguards on all nuclear facilities.

Despite limited progress, deletion of title IV's renegotiation provision does not appear to be necessary or desirable.

We believe that the United States should continue to explore the possibility of renegotiating existing agreements—recognizing, of course, the needs, attitudes, and sensitivities of cooperating partners.

U.S. AGREEMENTS WITH EURATOM

The U.S. agreements with Euratom require separate discussion because of certain unique circumstances. Unlike most agreements, those with Euratom do not give the United States prior approval rights over reprocessing. Because the act's export licensing criteria require such rights, and because Euratom would not immediately agree to renegotiate, U.S. nuclear exports to Euratom were suspended for about 3 months. Nuclear export trade with Euratom was resumed after it agreed to discuss its agreements.

At present, the act permits such exports to Euratom only if the President has extended a special exemption from certain of the act's export licensing criteria. Furthermore, the act requires that the President decide annually whether another 12-month extension is warranted. This provision of the act appears to have been an irritant that has served no useful purpose. Therefore, we believe that it should be amended to allow the United States to freely honor its agreements with Euratom during the renegotiation process.

TITLE V—U.S. ASSISTANCE IN DEVELOPING ALTERNATIVE SOURCES OF ENERGY

Title V calls on the United States to assist developing nations in identifying and developing alternatives to nuclear energy, with emphasis on solar and renewable energy sources. However, as a practical matter, title V has never been implemented. No funds have been specifically appropriated for title V programs, and it has not been used as justification for any ongoing or planned programs. Moreover, it can be viewed by foreigners as an attempt to limit their access to the benefits of nuclear power which the United States and other developed nations already have.

In our view, the need for retaining title V is dubious because existing programs already provide such assistance. We therefore recommend that title V be deleted.

COMPETITIVENESS OF U.S. NUCLEAR EXPORT INDUSTRY

Having discussed each of the act's principal titles, I would now like to focus on the U.S. nuclear export industry.

The impact of the act, per se, on the competitiveness of U.S. nuclear exports could not be specifically determined. This is not to say that the longer term U.S. nonproliferation strategy has had no impact on nuclear exports.

U.S. Government officials, industry representatives, and foreign buyers have indicated that the U.S. nonproliferation strategy has had an effect on some foreign decisions to purchase from a non-U.S. company. But whether the act, executive branch policies, financial considerations, type of reactor or equipment, or some other factor was the principal reason is difficult to determine. In GAO's opinion, U.S. companies are at some disadvantage because importers perceive that implementation of certain aspects of the act may adversely affect them.

In our report you will find specific language for suggested amendments to the act. We would be pleased to work with you and your staff in this regard.

This completes my statement, Mr. Chairman. We will answer any questions that you may have.

[Mr. Conahan's prepared statement follows:]

PREPARED STATEMENT OF FRANK C. CONAHAN, DIRECTOR, INTERNATIONAL DIVISION, U.S. GENERAL ACCOUNTING OFFICE

Mr. Chairman and Members of the Committee, we are pleased to discuss with you our report on the implementation and impact of the Nuclear Non-Proliferation Act of 1978 which was issued today.

In the three years since the Act came into effect, there have been positive and negative developments concerning proliferation. On the positive side, no additional nation has acknowledged exploding a nuclear device, twelve nations have become parties to the Non-Proliferation Treaty (NPT) raising the total number to 115, and another nation has moved toward placing all of its nuclear facilities under international safeguards, and the foreign rush to acquire reprocessing and enrichment technologies has not been as extensive as was previously predicted.

On the other hand, some nations appear to be seeking a nuclear explosive capability, some important non-nuclear weapon nations still refuse to accept international safeguards on all nuclear facilities or to sign the NPT, and export sales of sensitive nuclear materials and equipment have been made by other nations despite U.S. objections.

It is difficult to determine to what degree the United States influenced or could have influenced these developments, and of course, some of these developments did not fall within the Act's scope.

Nevertheless, in our opinion, the Act's short-term impact in controlling the spread of nuclear explosive capabilities has been limited because it has not been widely accepted abroad or fully implemented by the executive branch. The Act, coupled with executive branch policies, has generated considerable negative reaction abroad. Many nations have criticized the Act and the overall U.S. non-proliferation strategy. Their reaction has been influenced by concerns involving energy, security, political, economic, and technical considerations. Although some of these concerns were anticipated, the tenacity or extent of the negative foreign reaction was not expected.

International cooperation is the key to limiting the spread of nuclear weapons. No nation can unilaterally resolve the proliferation dilemma. Therefore, we believe that certain amendments to the Act and improvements in executive branch implementation are needed to obtain wider international acceptance of U.S. non-proliferation objectives, make the Act better conform with political, technical, and economic realities, and preserve the framework for curbing proliferation risks associated with international nuclear cooperation.

I will briefly summarize our findings regarding the implementation and impact of each of the Act's principal titles.

NUCLEAR FUEL CYCLE ASSURANCES

Title I states that the United States should take the necessary steps to assure that an adequate supply of nuclear fuel is available to nations with effective non-proliferation policies. The purpose of such assurances is to persuade other nations not to acquire their own uranium enrichment or reprocessing capabilities prematurely, and to make more palatable the non-proliferation measures called for elsewhere in the Act. We found that Title I has offered little incentive to other nations to agree to these additional non-proliferation measures.

To assure other countries that the United States will have sufficient supplies of fuel, the Department of Energy (DOE) is constructing additional enrichment capacity, including a $6.4 billion centrifuge facility. However, it is not apparent that such additional capacity is needed to meet foreign demand or further U.S. non-proliferation objectives because a worldwide surplus of enrichment capacity now exists and is expected to continue.

Although DOE believes that the additional enrichment capacity can be justified, we believe, for a number of reasons, that the need for the centrifuge facility has diminished since the Congress originally authorized it in 1975. We believe that Congress should take a close look at DOE's budget request for completing this facility.

With regard to the international initiatives called for in the Act, GAO found that limited progress has been made. Although the International Atomic Energy Agency is addressing the concept of multinational nuclear fuel supply assurances, the United States has not fully supported this effort.

The Act also states that the executive branch should explore the establishment of international spent fuel repositories. While some discussions have taken place concerning an international facility, much more complicated and time-consuming negotiations must take place before the concept is approved by the international community—much less construction of a facility started.

A closely related issue concerns proposed international controls over plutonium. To reduce the proliferation risks created by scattered plutonium stockpiles, an international control system over excess plutonium is needed. However, the United States has not given active support to the proposed international plutonium management and storage regime.

We believe that the United States should actively participate and support the IAEA committees addressing concerns over fuel supply assurances, international spent fuel management, and international plutonium storage.

To provide certain nations with a credible alternative to reprocessing, the United States offered to accept limited quantities of foreign spent fuel for storage. The Act provides a mechanism to carry out this offer. However, the lack of follow-through over the last three years has demonstrated that the offer does not provide other nations a credible alternative. We believe the executive branch should make a current assessment of the offer to accept foreign spent fuel.

IAEA SAFEGUARDS

Title II calls for U.S. contributions of financial, technical, and other resources to assist IAEA in the effective implementation of safeguards. In our opinion, Title II represents a strong commitment to the international non-proliferation regime and no change to it appears necessary. We found that intensified U.S. efforts to upgrade IAEA safeguards have had some positive results but they have not yet had as significant an impact as had been hoped and that IAEA safeguards need further improvement.

In our recent classified report to the House Foreign Affairs and Senate Foreign Relations Committees, we discuss in detail several technical and political factors hindering IAEA's application of safeguards.

Moreover, there are financial constraints on IAEA's increasing safeguards responsibilities. The United States and a few nations have provided special assistance for safeguards. Other nations support safeguards in theory but are less supportive financially. Many member nations maintain that IAEA's financial resources should be used primarily for technical assistance to less developed nations and to promote peaceful uses of nuclear energy.

We recommend that the Secretary of State work, together with other world leaders and IAEA officials, to develop a multinational plan to overcome the technical, political, and financial problems impeding effective application of international safeguards.

NUCLEAR CONTROLS AND EXPORT LICENSING

Title III establishes new export licensing criteria for U.S. nuclear exports. It also directs the Nuclear Regulatory Commission (NRC) and other Federal agencies to adopt procedures for the timely processing of export license requests and other export authorizations.

Operation of the present licensing system has improved since 1978. However, further changes are still needed to make the system function better. Accordingly, we are proposing a number of changes and clarifications.

Several of our recommended changes should help meet the legitimate needs of U.S. nuclear trading partners for supply assurances and the U.S. nuclear industry's

need for timely and predictable Government decisions. They are essentially aimed at establishing a more focused system in which the non-proliferation credentials of a recipient and the potential weapon sensitivity of an export would dictate whether a license application is reviewed on a streamlined basis. This would increase executive branch flexibility to facilitate nuclear trade with our allies and major trading partners, and help center U.S. non-proliferation efforts on nations posing greater risks.

Our recommendations are fully detailed in our report.

ROLE OF NRC

The role of NRC in Title III's nuclear export licensing process has been a matter of considerable debate. Arguments for its removal from the process have been advanced by the U.S. nuclear industry, the non-proliferation transition team, and certain NRC Commissioners. We did not find sufficient justification to recommend NRC's removal, given past indications of congressional intent and NRC's recent performance. Because, however, the continued role of NRC in the export licensing process may represent a legitimate national policy issue that the Congress may wish to reexamine, our report discusses some alternative arrangements.

LONG-TERM REPROCESSING POLICY

I would like to turn now to the matter of U.S. approval rights over foreign reprocessing and plutonium use. In April 1977 President Carter changed the direction of the U.S. nuclear program by deferring U.S. commercial reprocessing and the use of plutonium. The executive branch urged other nations to adopt similar policies.

The U.S. reprocessing policy causes some foreign countries real concern because the United States generally has prior approval rights over the reprocessing of spent U.S.-supplied nuclear fuel and the resulting plutonium, and is seeking to expand these rights. The manner in which the United States exercises these rights is very important to many U.S. trading partners who believe that reprocessing is vitally needed. These nations do not share the view that deferral of reprocessing is needed to control proliferation.

Title III of the law, which establishes standards for approving foreign reprocessing requests, states that nothing in that section was intended to prohibit, permanently or unconditionally, the reprocessing of U.S.-supplied fuel by a foreign nation. It also recognized that a 66-nation International Nuclear Fuel Cycle Evaluation (INFCE) was underway to study the proliferation risks of reprocessing and other alternatives.

That study, which was completed in February 1980, generally repudiated the U.S. policy on prior approval for foreign reprocessing. Nevertheless, the executive branch has not yet reconsidered its policy. We think it should. In the meantime, we believe the executive branch should, in considering foreign reprocessing requests, follow the criteria set forth in the Act and drop the additional executive branch requirement that the requestor show an actual physical need to reprocess the spent fuel.

AGREEMENTS FOR COOPERATION

The next title—Title IV—expands U.S. criteria for future agreements for peaceful nuclear cooperation and directs the President to attempt to change existing agreements to comply with the new criteria. Although the executive branch has made an extensive attempt to renegotiate existing agreements, much of this task has not been completed. There has been a general foreign reluctance to renegotiate.

Since the Act was passed, previous agreements with Australia, Canada, Indonesia, and IAEA have been revised or replaced. New agreements have been completed with Peru, Morocco, and Colombia; and agreements with Egypt and Bangladesh have been initialed. However, previous agreements with 17 nations and EURATOM have yet to be revised.

Nations have been reluctant to renegotiate for various reasons, including concern over U.S. prior approval rights and perceived U.S. "unilateralism" in revising the groundrules for cooperation. Some nations deferred renegotiation until after INFCE was completed or until the United States had revised other agreements. Others were unwilling to accept international safeguards on all nuclear facilities.

Despite limited progress, deletion of Title IV's renegotiation provision does not appear to be necessary or desirable.

We believe that the United States should continue to explore the possibility of renegotiating existing agreements—recognizing, of course, the needs, attitudes, and sensitivities of cooperating partners.

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The U.S. agreements with EURATOM require separate discussion because of certain unique circumstances. Unlike most agreements, those with EURATOM do not give the United States prior approval rights over reprocessing. Because the Act's export licensing criteria require such rights, and because EURATOM would not immediately agree to renegotiation, U.S. nuclear exports to EURATOM were suspended for about 3 months. Nuclear export trade with EURATOM was resumed after it agreed to discuss its agreements.

At present, the Act permits such exports to EURATOM only if the President has extended a special exemption from certain of the Act's export licensing criteria. Furthermore, the Act requires that the President decide annually whether another 12-month extension is warranted. This provision of the Act appears to have been an irritant that has served no useful purpose. Therefore, we believe that it should be amended to allow the United States to freely honor its agreements with EURATOM during the renegotiation process.

ASSISTANCE TO DEVELOPING NATIONS

Title V calls on the United States to assist developing nations in identifying and developing alternatives to nuclear energy, with emphasis on solar and renewable energy sources. However, as a practical matter, Title V has never been implemented. No funds have been specifically appropriated for Title V programs, and it has not been used as justification for any ongoing or planned programs. Moreover, it can be viewed by foreigners as an attempt to limit their access to the benefits of nuclear power which the United States and other developed nations already have.

In our view, the need for retaining Title V is dubious because existing programs already provide such assistance. For example, we therefore recommend that Title V be deleted.

IMPACT ON THE U.S. NUCLEAR INDUSTRY

Having discussed each of the Act's principal titles, I would now like to focus on the U.S. nuclear export industry.

The impact of the Act, per se, on the competitiveness of U.S. nuclear exports could not be specifically determined. This is not to say that the longer-term U.S. non-proliferation strategy has had no impact on nuclear exports.

U.S. Government officials, industry representatives, and foreign buyers have indicated that the U.S. non-proliferation strategy has had an effect on some foreign decisions to purchase from a non-U.S. company. But whether the Act, executive branch policies, financial considerations, type of reactor or equipment, or some other factor was the principal reason is difficult to determine. In GAO's opinion, U.S. companies are at some disadvantage because importers perceive that implementation of certain aspects of the Act may adversely affect them.

In our report you will find specific language for suggested amendments to the Act. We would be pleased to work with you and your staff in this regard.

This completes my statement, Mr. Chairman. We will answer any questions that you may have.

Chairman ZABLOCKI. Do you have anything to add, Mr. Peach?

Mr. PEACH. No, sir.

EFFECTIVENESS OF IAEA SAFEGUARDS

Chairman ZABLOCKI. We will carefully study and review the suggested amendments to the act and, of course, the staff or members of the subcommittees will be in touch with you in consultation as we proceed in consideration of these suggestions.

On page 45 of your report to Congress you state, "the extent to which present safeguards are effective is largely a matter of judgment. It will be difficult to prove if or to what degree safeguards have achieved their desired effect." Then you say, "Nevertheless, it is clear that the credibility of international safeguards as a deterrent to proliferation depends upon the probability of prompt detection." It is my understanding that the Atomic Industrial Forum, in its review of U.S. nuclear export, policy states, "The present timely

warning criteria has proved to be impractical." How would you respond to this assertion?

Mr. CONAHAN. In a general sense, Mr. Chairman, safeguards need to be considered in the context of the total concern that we have with the proliferation issue. I think that safeguards need to be looked at in the context of their totality. A little later on we suspect we will be discussing safeguards and timely warning with respect to reprocessing. Now, the International Atomic Energy Agency has had a good deal of experience in safeguarding, for example, material used in light water reactors. We suspect they are doing a fairly good job. As you get further away from that you run into the problem areas. For example, INFCE concluded that the technical considerations were not all that problematical with respect to the current operating nuclear facilities. But once you get beyond that you have some problems. In the final analysis safeguards need to be considered with respect to the political context in which they are used. A nation's will is, in the end, what is going to determine whether there will be diversion.

Chairman ZABLOCKI. Is IAEA in a position to observe and to report any diversion of nuclear materials at all stages of the nuclear fuel cycle?

Mr. CONAHAN. I think they need to make improvements in order to have total and full assurances. There are some limitations with respect to equipment but I do not thir we can go much beyond that in discussing it at this time.

STATEMENT OF J. DEXTER PEACH, DIRECTOR, ENERGY AND MINERALS DIVISION, GAO

"TIMELY WARNING" CRITERIA

Mr. PEACH. May I add that it seems to me one of the questions is how closely you want to equate the timely warning criteria to application of safeguards. Given the existing equipment to measure the material as it passes through reprocessing plants, if you are dealing with a question of reprocessing, there are some limitations with respect to existing equipment. There is a need to further refine and understand how we can improve that equipment and how to apply the kind of safeguards needed to achieve the fullest possibility of getting timely warning.

Chairman ZABLOCKI. In your statement, Mr. Conahan, you say that the IAEA lacks both the necessary equipment and sufficient personnel to perform all their safeguards responsibilities.

Mr. CONAHAN. That is a problem and has been a problem. The United States specifically has been working on it. Other countries have also been working on it. As a part of a special U.S. program we provide people on detail to work with the inspectors. Inspectors are being trained in this country and elsewhere but as of this date there are limitations on the number of inspectors.

NUCLEAR MATERIAL ACCOUNTING PRACTICES

Chairman ZABLOCKI. One of the shortcomings you have alluded to is the inadequacy of nuclear material accounting practices. That is a very serious use shortcoming. Would you care to amplify?

Mr. PEACH. Mr. Chairman, in one previous report which supports this overall report that we are looking at today, we looked in detail at the nuclear material accounting practice particularly as it relates to reprocessing. There are gaps that exist in that particular area. For example, if you are talking about measuring material that might exist in spent fuel, current equipment can do it within about a plus- or minus-10-percent range. If you are talking about material going through the reprocessing plant there is a plus- or minus-5-percent range on the capability of current equipment. So you have the question of not having the precision you would like in terms of measuring weapons grade material and being able to detect whether there have been any diversions. There need to be efforts in order to improve this kind of equipment.

When the United States decided to defer reprocessing, it in effect cut the funding that was put into the area of research and of developing ways to improve this kind of equipment. We suggested that was not necessarily a good decision and if we were going to effect the kinds of safeguards employed in this area we need to do the necessary research and development in order to understand what can be done to improve the safeguardability of material and the measurement equipment. So there are areas where you need improvement.

Mr. CONAHAN. Perhaps I could back up and comment on the bulk of the facilities that are in the world and the picture there is mixed. There are a few countries where simply the bookkeeping is terribly deficient and they need assistance in order to bring that bookkeeping up to snuff. Then there are individual deficiencies in another category of countries. Then there are a great number of countries where the bookkeeping is quite good.

REAGAN ADMINISTRATION'S INPUT TO GAO REPORT

Chairman ZABLOCKI. In preparing this review, to what extent has the new administration had an input? To what extent was policy discussed with the present administration?

Mr. CONAHAN. Insofar as safeguards is concerned?

Chairman ZABLOCKI. Any part of the works.

Mr. CONAHAN. Let us stay with safeguards. That is a very long-term program. There has been a commitment on the part of successive administrations to the improvement of safeguards and I think that there has been little change in that except there have recently been some technical changes. I believe the present administration has notified the IAEA that they now can think in terms of using some of the special contributed money for looking into safeguards over reprocessing. With that change they have gone a little beyond the previous administration.

ROLE OF NRC

Chairman ZABLOCKI. On the basis of the policy of the NRC referred to on page 8, is it up to date? As you state, NRC's recent performance has improved but there were legitimate complaints on the part of the administration over the NRC. To what extent is your observation on page 8 current and up to date? In other words, what

is the present administration's policy toward retaining the export licensing responsibilities of the NRC?

Mr. PEACH. Mr. Chairman, if I could take a shot at that and back up and make a little broader statement. When we tried to get comments on this overall report we were not able to get definitive comments from the new administration. They are still in the process of forming what their policy is going to be on nonproliferation and, in effect, in the nuclear area. They did not want to make a commitment at all. There are indications from budgetary decisions with respect to their position on nuclear in general. They supported, for example, the Clinch River breeder reactor, so that was put back into the budget proposal. That was a change from the previous administration. In general statements they have indicated a willingness to let reprocessing take place, but have not gotten down to specifics, although they have indicated preference for the private sector financing. Overall, they are still developing policy on what to do with respect to nuclear power.

In that same regard, their view with respect to the role of NRC at this point is still unclear. Our position in the report was based on looking at NRC performance and the improvements that had been made in the last 3 years, further improvements that we think can be made within the context of retaining NRC, and the role Congress seemed to envision for NRC when they placed them in the process. We did not see a body of evidence that would support a recommendation to remove them at this point. We recognize this might be an issue that Congress might want to take up and consider since there is disagreement in the area. But the information we developed in our review did not lead us to a conclusion of recommending any change.

Chairman ZABLOCKI. Mr. Bingham.

Mr. BINGHAM. First, I would like to thank you gentlemen and the GAO for preparing here a report that I think is in the best, highest tradition of the GAO as an independent agency which can act and I think in this case, did act on the merits as they saw the merits. I don't want to put you on the spot, but I understand pressures were brought to bear on you and that you resisted. So I think we have reason to be very grateful for your independent judgment here. Following up on the chairman's questions about safeguards, I just would like to highlight one point with which I am sure I think you would probably agree.

IMPORTANCE OF "TIMELY WARNING"

When you get past the reprocessing stage and reach the stage where you have plutonium in storage, you really have reached a point at which safeguards are of limited value because you simply don't have the possibility of "timely warning." If whoever is in charge of the plutonium decides to start using it in production of weapons, the time element there is so short that the community of nations simply does not have enough time to react.

It was that situation I think which we had in mind in putting into the act the "timely warning" standard. Congress recognized that neither the United States nor the world community had yet devised an adequate means of safeguarding separated plutonium

and that technical, institutional, and political remedies should be sought.

Mr. CONAHAN. I think I would like to react to that, sir, by thinking how far we can go in what safeguards might constitute.

Perhaps most would scoff at the suggestion that there is some possibility for negotiating an arrangement whereby a neutral would be physically present in these areas to complement the safeguards as we now know them—the instrumentation and this sort of thing.

Depending upon how far you go, you achieve greater timely warning. I don't know how far we can go on that.

I don't know how much of that you can negotiate. But certainly I think that we have to consider developing and improving safeguards as we consider the whole question of going down the road of reprocessing.

I think those two things have to be considered together.

Mr. BINGHAM. I fully agree with that. I was pointing out that timely warning will be elusive where safeguards really cannot do the job, no matter how technically effective they are today.

Mr. CONAHAN. We would have to agree.

U.S. MB-10 POLICY

Mr. BINGHAM. On U.S. policy toward foreign retransfer and reprocessing requests, "MB-10's," can you give us a summary of how you think decisions should be made? What standards should govern U.S. approvals? You have indicated you don't like the reliance on physical need as a criterion. Are the standards in the 1978 act sufficiently clear to guide a decision on those very tough questions?

Mr. PEACH. Let me try to respond on that. When we looked at the question of the U.S. approval rights on foreign reprocessing and plutonium use, we ended up dividing it in terms of a question of, "OK, long-term, what should you be driving toward," and in the interim, while you are moving toward what you wanted to do in the long term, what do you do?

To further try to improve the process and deal with some of the objections raised by some of our trading partners, to the extent they are legitimate objections, what we suggested in the report was that we no longer use this requirement of imminent physical need for reprocessing with respect to trading partners. This requirement seemed to be a very sticky point that has developed.

Mr. BINGHAM. Why not, what is wrong with that? It is true the Japanese say they simply don't have the space to store these spent fuel elements. They don't have space away from reactor storage and have to do something with that fuel.

Mr. PEACH. I think it also relates to a consideration as to whether we are telling them from a standpoint of national decision that they would make as to whether that is the only way in which any reprocessing could occur, that there is no way they can do anything else except to continue to store spent fuel.

So it becomes a kind of a point of contention between us and people that we are normally working with on a continuous basis in many of these areas.

It was that kind of issue that we were looking at. We did suggest that for now the Government continue to, on a case-by-case basis,

apply the criteria that exist in the act with respect to timely warning and no significant proliferation risk in granting U.S. approvals.

The other point that we tried to make was the need to look at the question of developing a long-term policy of what the U.S. position is going to be on reprocessing and on the movement of plutonium.

We laid out some considerations. You might want to look at that. The Government needs to look for what purpose would reprocessing be judged reasonable.

Who could do the reprocessing and where? Should limits be placed on where the reprocessing could occur? Under what kinds of circumstances? What are the allowable processes? What kinds of international controls should be present over the reprocessing or over the movement of plutonium?

Those particular kinds of considerations need to be addressed in developing a long-term policy.

We tried to split it, looking at the short term in terms of what adjustments could be made while developing a long-term policy.

Another part of our position was based on general considerations. INFCE had taken a position on reprocessing that raises questions about the development of U.S. policy on a long-term basis.

Mr. CONAHAN. I think I would add a note of clarification as concerning our recommendations that we drop the requirement to demonstrate physical need.

We are looking out for the longer term there. There is a tremendous amount of money, of course, involved in going into reprocessing. Foreign nations who wish to make that judgment, we feel, should have a little greater assurance from us as to the kinds of decisions we are going to be making when they come in; and dropping that particular requirement would give them greater assurances.

Mr. BINGHAM. The odd thing is that you make it sound as if the physical need criterion had been used to make it tougher to get MB-10 approvals. In practice, it has been just the other way, as I understand it. Approvals have been granted although there might be doubt on other nonproliferation grounds. As a practical matter, the Japanese have had so many storage problems there was no alternative but to let them ship it out and enter into their contracts for reprocessing. So physical need was used as a way whereby the MB-10 had to be approved. I don't want to dwell on that further, but I did want to comment on just one further item and I don't want to trespass on my colleague's time.

USING MB-10'S AS LEVERAGE

I am interested to hear you say that you believe that at least for the short-term, the decision should be made on a case-by-case basis because that does leave the administration, NRC, and Congress a certain flexibility to use these approvals to put pressure on countries with respect to some nuclear matters where they are being a little difficult.

For example, I think it is fairly well known that the United States used this kind of leverage in dealings with the Swiss Government to persuade them to tighten up their exports to Pakistan.

I can see that approach as having substantial benefit when looking at the broad spectrum of what we are trying to do in nonproliferation.

I don't know if you want to comment on that or not.

Mr. CONAHAN. Simply to say we gave that a great deal of weight in the formulation of our recommendation.

Chairman ZABLOCKI. Mr. Lagomarsino.

UNITED STATES-INDIAN NUCLEAR RELATIONS

Mr. LAGOMARSINO. In your opinion, what should the U.S. approach to supplying nuclear fuel to India be? How should we proceed if they decide to terminate the agreement?

Mr. CONAHAN. I suppose that I personally don't think that an organization like ours would reach a conclusion on whether we continue to cooperate with India, but there are a number of considerations.

The continued cooperation in the nuclear area with India is one of a number of things we have to be concerned about in dealing with our relations with that country.

We need to look at the kind of agreement we have with India. It is unique. It involves an assured market, although that may not loom very high. There are a gamut of considerations involved. It would also depend on whether they or we decide to seek the termination.

Mr. LAGOMARSINO. Do you have anything to add?

Mr. PEACH. I agree with Mr. Conahan. Basically that is the kind of question that is difficult for us to provide a definitive answer for. There are a range of considerations between what has occurred on the nuclear front and how this agreement was entered into.

ENVIRONMENTAL ASSESSMENTS FOR NUCLEAR REACTOR EXPORTS

Mr. LAGOMARSINO. What about the case of nuclear exports to the Philippines? As you know, the issue of environmental assessments becomes a very controversial subject with regard to that: First for the NRC, and later for the courts.

In your review, did you consider any legislative action that might help clarify that situation?

STATEMENT OF JOSEPH MURRAY, CODIRECTOR, NUCLEAR TASK FORCE, GAO

Mr. MURRAY. We have not considered that. The requirement for environmental impact statements was based on executive branch policy; namely, an Executive order.

The law, as it is written, provides that we should try to get them to consider environmental issues, but it does not say specifically that we have to get these arrangements.

It does not provide, as an export criterion that an environmental impact statement be prepared.

Mr. PEACH. This is one of those things that is another impact that may relate to nuclear trade—requirement through executive branch order for environmental reviews of U.S. nuclear exports.

Mr. LAGOMARSINO. Which could or could not exist apart from the entire act that we are studying here today.

Mr. PEACH. That's correct. That and many other factors, also.

INTERNATIONAL SPENT FUEL REPOSITORIES

Mr. LAGOMARSINO. What efforts should be made to develop international nuclear spent fuel storage facilities?

Mr. PEACH. In the report we said that the Department of State should pursue those kinds of discussions very actively, both with respect to international nuclear spent fuel and also to expansion in another area, international plutonium control and storage.

We had some question as to how strongly the executive branch was moving with support in some of these areas. We also suggested that the Government should reach a decision as to whether we can make good on our offer contained within the context of the act to accept foreign spent fuel back into the United States as an alternative.

That has been an offer that has been laid out, but it never approached reality and, of course, there are many issues domestically with what the Government will or will not do with respect to spent fuel that are tied into any judgment. However, we said that the Secretary of DOE needs to make a judgment in that area as to what could be done.

So there are several things tied into that area where we think the executive branch needs to work actively.

Mr. LAGOMARSINO. Did you go into or consider at all the question of the domestic breeder reactor?

Mr. PEACH. Not in this report, as such. I would be remiss if I did not say that we have done a great body of work dealing with the breeder reactor question in an overall context over the last few years in GAO.

So we have looked at that issue.

Mr. LAGOMARSINO. You did not touch that in this report?

Mr. PEACH. No, we do not deal specifically with that question in this report.

Chairman ZABLOCKI. Mr. Fountain.

Mr. FOUNTAIN. Thank you, Mr. Chairman.

First, I want to commend GAO and you gentlemen here for the extremely informative, thoughtful, and thought-provoking statement that you have prepared.

I also want to commend the leadership in GAO for having recruited down through the years so many talented people so qualified in a variety of areas.

I know it is sort of like general practice of law. You have to know a little something about everything and sometimes you don't know too much about anything, but in your agency, you seem to be better qualified than the average general practitioner of law.

PROGRESS IN STREAMLINING NUCLEAR DECISIONMAKING

I have to go right away, but there is one question I would like to ask. I note that GAO's recommendations appear to be aimed at streamlining executive branch and NRC decisionmaking.

What efforts have the executive branch and the NRC already undertaken to streamline the decisionmaking process since the passage of NNPA and what further actions can be taken by combination of executive branch initiatives and concerted congressional pressures and oversight?

Mr. PEACH. Let me look at that in a couple of different ways. One, as the act has been implemented, there has been a trend of steady improvement.

In total, about 85 percent of all export licenses have been issued in less than 120 days. As you move to the third year overall, 45 percent of major exports are being handled in less than 120 days.

From NRC's specific standpoint, they have substantially reduced the time that is required for them to look at export licenses.

Through delegating authority down to their staff to handle some of the more routine matters, they have reduced the amount of time the Commissioners have to be involved with looking at nuclear export license kinds of questions.

There are several further things that we think can be done. One gets into the area of looking at what we would term as generic assurances for repetitive exports.

For example, in cases involving licensing of routine enriched uranium reloads for reactor operation where there has been no change since previous cases, we believe that individual written assurance may not be necessary every time. Generic assurances can be accepted unless there is some change to require specific assurances for export licensing.

We also came up with suggestions for revising the licensing delay notification requirements that would reverse the existing requirements. NRC would advise the Congress when it has held a request for more than 60 days, so that the Congress could be aware of holdups that were occurring in NRC and what the rationale was. The executive branch would notify the applicant whenever a request was held for more than 60 days, so that they could be aware of the reason for the holdup within the executive branch and perhaps take action to speed it up.

We also suggested that the licensing process could be expedited for countries that had either new or expanded agreements for cooperation. This might have the side benefit of encouraging countries to renegotiate their agreements, if appropriate arrangements for expediting the process met all the criteria laid out in the act.

So, within the range of this, there are a number of things that can be done to improve the existing process.

PROPOSED NNPA AMENDMENTS

Mr. FOUNTAIN. One further question. I note on page 3 of your statement a realistic observation is made. You say that you believe certain amendments to the act require executive branch implementation to obtain wide international acceptances of U.S. nonproliferation objectives. On the second part, could you elaborate a little

bit—"Make the act better conform with political, technical, and economic realities."

Mr. CONAHAN. We looked in terms of changing the act by title. For example, we suggested that title V be repealed because assistance of that nature could be handled through the Foreign Assistance Act by the Agency for International Development and other agencies such as that.

Another recommendation had to do with title IV and the need for the President to annually make a national-interest determination for continued cooperation with the Euratom countries. We don't think that that really serves very many purposes. So there are a series of those kinds of recommendations in the report and they are all detailed.

Mr. FOUNTAIN. Thank you, Mr. Chairman.

SANCTIONS POLICIES

Chairman ZABLOCKI. Your report mentions the apparent lack of interest internationally in developing some sort of sanctions policy to aid in deterring those countries which present real problems because of their efforts to acquire nuclear weapons.

Why do you suppose this is the case, especially in those countries perceived as potential proliferators, seem to be progressing unimpeded toward a nuclear weapons capability?

Mr. CONAHAN. The principal forum in which that matter was taken up was the so-called suppliers' group that began 3 or 4 years ago.

When you deal with sanctions, you have to reach agreement on common export policies. The suppliers' group simply was unable to reach agreement on those policies and thus, the question of sanctions could not be concluded.

We feel that the Department of State did make some effort in this regard, but they were not able to bring it to a conclusion.

POLICY ON REPROCESSING

Chairman ZABLOCKI. Given the fact that the International Nuclear Fuel Recycle Evaluation noted specifically that thermal recycle is marginally economic and that reprocessing is not necessary for waste management, how does GAO view the transition team's suggestion for essentially an anything-goes approach to reprocessing approval by permitting stockpiles of reprocessing plutonium to accumulate?

Does this policy encourage recycling?

Mr. PEACH. In trying to get into focus that specific suggestion as it comes from the transition team, perhaps the best way I can relate to it is we tried to include in one of our reports a clear recognition that already about 25 metric tons of plutonium have been accumulated worldwide.

The INFCE projections indicate as much as 885 metric tons of plutonium may be accumulated by the year 2000 through reprocessing.

That figure may be high, depending on what will happen in reprocessing and the direction the nuclear industry takes. But still it indicates, even if you look at half that figure, a substantial

amount of plutonium where greater controls are going to be needed.

We did strongly support in the report the idea of trying to move forward on international forum controls, controlling plutonium in storage. As we looked at this and examined what was happening, it seemed to us, at best, the administration support in this area, and this would be going back to the past administration, was lukewarm for trying to get something moving in the area of an international plutonium authority or storage authority.

We think that they need to move in that area and we made specific recommendations to the Secretary of State.

Chairman ZABLOCKI. On page 10, Mr. Conahan, of your prepared statement, you indicate that the INFCE study "generally repudiated the U.S. policy on prior approval for foreign reprocessing."

I assume you did not mean INFCE would repudiate the idea of countries having prior consent, right?

Mr. CONAHAN. I think that the other countries do not feel as strongly as we did over the past several years that reprocessing had such great proliferation risk to it.

I think that that was at the heart of their repudiation of the U.S. policy.

Chairman ZABLOCKI. If I can quote from an INFCE document, which in my opinion, better reflects the thrust of INFCE collective judgment on this point, I quote:

> It was generally accepted that more uniform, consistent and predictable application of national export and import controls by each supplier and consumer country, in accordance with more concrete criteria, would go a long way to mitigate uncertainties and thus strengthen assurances of supply.

Would you care to comment?

Mr. PEACH. I was going to relate that back in that kind of context. I do think the context in which you are placing it is appropriate, and also, in the context of where we came down in the report in terms of trying to look at development of a long-term policy. policy.

In other words, we did conclude in the report that the United States should develop now after the INFCE finding, a long-term policy on this reprocessing question and should take into consideration all the factors and make others aware that this is the policy the U.S. Government will be following in this area, although it may not necessarily be a case-by-case determination.

Part of what INFCE called for at this point is the idea of having long-term, clear policies on movement of material for reprocessing at the time supply agreements are entered into.

Chairman ZABLOCKI. I had the perception, from the response to Congressman Bingham's questions, that a case-by-case U.S. policy on retransfer and reprocessing was consistent with the general agreement during the INFCE period to hold back on major commitments in any direction. Are you aware of any reprocessing requests that were denied by the United States during the INFCE period?

Mr. PEACH. No, I am not aware of any.

INFCE OVERESTIMATED NUCLEAR GROWTH

Chairman ZABLOCKI. As far as the report itself, would you agree that many of INFCE's findings on the merits and timing of reproc-

essing and breeder activities were based on what have now proven to be wildly optimistic economic assumptions about world supply and demand for nuclear power?

How should INFCE's conclusions be modified?

Mr. PEACH. There is no doubt that there is disagreement with some of the numbers that were put out in the INFCE process on the number of reactors worldwide by the year 2000. The figures they used were in the neighborhood of 850 to 1,200 worldwide.

Department of Energy figures, if you want to look at some of the studies they have done, indicate worldwide maybe 450 to 600 reactors. So those differences have a lot of implications, for example, as to how quickly reprocessing is needed.

If you look at the body of work GAO has done in relation to the breeder reactor in this country, we have always tended to see a connection between reprocessing and breeders within this country.

In other words, the economics look marginal for existing generation of light-water reactors, but if the country moves to a breeder reactor concept, reprocessing sort of goes hand-in-hand with that kind of concept. So a lot of the questions about reprocessing, even on the international scene, and the extent to which it is applied, may relate to whether or not the United States moves toward breeder reactor technology.

Chairman ZABLOCKI. Mr. Markey.

PRESIDENT MITTERRAND'S NUCLEAR POLICIES

Mr. MARKEY. On page 114 of your report, you talk about France's commitment to a domestic nuclear program, including a breeder reactor.

Isn't it true that France may have, indeed, a new nuclear policy with the election of Mitterrand as the new head of their government? He has made a commitment during his campaign that clean coal and renewable energy resources will be the centerpiece for his energy policy and he wants to get away from a nuclear agenda.

He has only been in office a brief time, but have you made any kind of analysis of the refocus that may occur in France in terms of their relationship with nuclear power?

Mr. CONAHAN. No, sir, in short, we have not. We have seen the press accounts, but beyond that we have not made any study of his precise program nor, in a general sense, what it would mean in the long term to France.

Mr. MARKEY. But it is possible they might have a new view of nonproliferation in terms of their policy of development of domestic and export of new technology around the world.

Mr. PEACH. I might add to what Mr. Conahan said. We have not made any specific study. We are just trying to keep abreast of the developments as they take place. Some of the reports that I have seen indicated that they would continue with existing orders, for example, for existing plants and would complete construction of the breeder they now have under development, but the question of commercialization of breeder and the question of further plants would be an issue they would look at and decide on.

All of this seems to be evolving at this point. I guess I would suggest it is something we are going to have to keep a close look on.

Mr. CONAHAN. I think if we took a lesson from ourselves--it takes a while for these things to unfold.

Mr. MARKEY. But it is very possible though, that France might retreat from its aggressive boosterism of nuclear power and retreat into a position that might be a little more moderate and balanced in giving some recognition to the dangers that proliferation poses for the world.

Mr. CONAHAN. We feel we have a continued mandate to review the whole nuclear energy and nonproliferation area and we will have to follow that closely.

GENERIC ENVIRONMENTAL IMPACT STATEMENT ON MIXED OXIDE FUELS (GESMO]

Mr. MARKEY. GESMO is a form of rulemaking proceeding. It makes no sense to continue it unless we contemplate a future of commercial reprocessing facilities in this country which would need NRC licensing to operate.

The decision to suspend GESMO in 1977 was taken on economic grounds as well as nonproliferation considerations.

With respect to the economic arguments, nothing has changed since 1977 to render the original verdict suspect.

If anything, the economic arguments against commercial reprocessing for light-water reactor recycle have become more compelling.

Here is my question. Since the private sector is turning thumbs down on investing in commercial reprocessing for thermal recycle, what has changed, if anything, about the economic facts of life which rule against reprocessing in the energy marketplace?

If nothing has changed, why should we tell the the world—Pakistan, Iraq, Libya, and the rest—that the United States changed its mind on nuclear nonproliferation and now views the plutonium economy as worth pursuing?

Mr. PEACH. Let me start off by agreeing that the work we have seen indicates marginal economics for existing generation of light-water reactors.

Your observations there certainly we would agree with. Probably in this country, whether we would ever go to reprocessing is tied into what we would do in the breeder area or not do in the breeder area.

In that respect, the new administration proposed to continue to fund, for example, the breeder program. Even in the preceding administration, a substantial amount of money was committed to breeder reactor research and development, $400 or $500 million, so there was a constant pursuit of breeder question.

Let me say the recommendation we made was to resume the GESMO process at this point. It was originally suspended at least until the INFCE program was completed. INFCE has been completed. We made the recommendation on the basis we should take a look at the generic environmental health and safety process related to reprocessing. That would be a process we would have to go through to understand the potential licensability and understand the problems we would have to deal with if we ever did want to bring about that process on a wide scale in this country.

So we also view it as a learning kind of process of seeing the issues get raised and seeing just how insurmountable or how surmountable they might be.

Mr. MARKEY. Your report leaves to the NRC and to State the question of nonproliferation allowing them to determine the advisability of promoting this technology and to balance the nonproliferation goals against our overall foreign policy. But just on the question of economics alone, is there a case that can be made that reprocessing is viable in the world in the marketplace apart from being propped up by the Federal Government?

If we took the Reagan administration philosophy of allowing all of these technologies to be out there in the marketplace competing for the energy dollar, is there an energy technology which, without substantial Government subsidy, could meet its maker in the marketplace and still survive?

Mr. PEACH. I guess I need to seek clarification. Are we talking about existing light water reactor technology?

Mr. MARKEY. Yes, sir.

Mr. PEACH. From that standpoint, I would reiterate that the information we have seen indicates marginal economics with the existing light water reactors.

The tie with reprocessing is going to be more closely related to whether or not we move to the breeder reactor.

Mr. MARKEY. But with the existing light water reactors, there is a serious question as to its continued economic viability.

Mr. PEACH. There is a question of the economics.

EXPORTS OF HIGHLY ENRICHED URANIUM

Mr. MARKEY. On page 11, you state that, despite U.S. policy designed to reduce the use of highly enriched uranium, the United States continues to export large quantities of it for use in the world's nuclear research reactors.

Isn't it true that the highly enriched uranium can be used quickly to manufacture nuclear weapons?

Mr. PEACH. Basically if you are dealing with highly enriched uranium, weapons grade material, moving to 93-plus enrichment factor use——

Mr. MARKEY. What do you mean by "large quantities"?

Mr. PEACH. Let me see if I can come up with the exact figure. According to this, we have better than 1,000 kilograms of licenses that had been issued through September 30, 1979, since the act was passed on March 10, 1978.

In an earlier report, there were around 1,800 kilograms under review at that point in time for licensing. I don't have the precise figure as to how many have subsequently been approved.

Mr. MARKEY. Could you list the amounts of bomb-grade material exported every year and to which countries it is sent to? Would you compile that?

Mr. PEACH. We can certainly. The information that I was referring to is based on a schedule that breaks down by country. The amount that is under license, is issued, and the amount under review for license, so we can certainly furnish something for the record to deal with that.

[The following information was subsequently provided:]

U.S. EXPORTS OF HIGHLY ENRICHED URANIUM[1] 1954–81

[In kilograms[2]]

	Uranium enriched 20 to 89 percent	Uranium enriched 90 percent and above	Year of most recent shipment[3]
Argentina	36	57	1980
Australia	0	10	1981
Austria	3	7	1977
Belgium	30	137	1981
Brazil	3	4	1980
Canada	46	1,455	1981
Colombia	0	3	1973
Denmark	0	26	1973
Finland	4	0	1980
France	4,071	2,177	1980
Germany (West)	7,457	2,489	1981
Greece	0	6	1974
Indonesia	12	0	1977
Iran	0	6	1977
Israel	0	19	1975
Italy	419	108	1981
Japan	1,900	492	1981
Mexico	21	0	1980
Netherlands	0	82	1979
Pakistan	0	6	1972
Philippines	0	3	1980
Portugal	0	8	1974
Republic of Korea	30	0	1978
Republic of China	0	10	1974
Romania	0	39	1979
South Africa	0	33	1975
Spain	9	5	1969
Sweden	0	148	1979
Switzerland	(4)		1973
Thailand	0	5	1977
Turkey	0	5	1979
United Kingdom	0	2,300	1981
Yugoslavia	15	0	1976
Zaire	1	0	1971
	14,057	9,640	

[1] Information based on a report prepared for the U.S. Nuclear Regulatory Commission by Union Carbide. GAO did not verify the report's accuracy.
[2] Amounts under 1 kilogram are shown as 0. Countries with less than 1 kilogram in both enrichment categories are not shown. All figures rounded to the nearest kilogram. Also method of calculation may have caused some approximations due to rounding.
[3] Includes data through Mar. 31, 1981.
[4] Data incomplete.

Mr. MARKEY. I want to reemphasize the point that GESMO only deals with light water reactors and that the real focus here is trying to make a determination as to the overall economic viability of that cycle.

The GESMO just helps to fuel the light water cycle and you concluded it as marginal economic development at that point.

Mr. PEACH. There may be a slight difference, Mr. Markey, in the context of how we are looking at that.

We are looking at it in terms of our recommending GESMO as being a generic study of the mixed-oxide fuel question, the question of reprocessing, in terms of looking at what are the health, safety, and environmental considerations connected with reprocessing.

Whether it is reprocessing to obtain fuel that may be used in breeders or to refuel light water reactors I think would be a ques-

tion of which direction we would move in this country; but it is generic to the question of reprocessing.

Mr. CONAHAN. I think it is important that this point is made and I would like, if I may, to read our recommendation. It is:

> NRC should resume decisionmaking procedures, and this is what it is on. Whether reprocessing and use of plutonium-bearing fuel should be permitted on a wide basis in the United States from environmental, health safety and safeguard standards point.

So we are raising the whole question.

I think we can do that without signals to other countries that we are in support of this.

I would hope we could do that.

Mr. MARKEY. I am told NRC's GESMO is not about breeders. You may want the NRC to add breeders. But presently, that is not the case.

Is that so?

Mr. CONAHAN. I would like to look into this a little bit further.

Mr. MARKEY. Just one final question, if I may. On page 13, you state:

> There is no question that the nuclear technology materials which are intended for peaceful purposes can be used to varying degrees in making nuclear weapons.

If there is a direct link between nuclear weapons and nuclear powerplants, why do we permit any exports of nuclear technology at all?

Mr. CONAHAN. Simply national policy to do so, sir.

Mr. MARKEY. National policy to export materials that can be used for bombs?

Mr. CONAHAN. To export material that can be used to generate energy.

Chairman ZABLOCKI. Why would Libya want a nuclear powerplant when they have enough oil to put an oil-fired plant on every corner of the country?

Mr. CONAHAN. I certainly cannot answer that question.

Chairman ZABLOCKI. Iraq?

Mr. CONAHAN. I cannot answer.

Mr. MARKEY. Is it a good policy for us to be engaging in that kind of roulette—I will not call it Russian roulette—in which we are very well running the risk that maybe not in the immediate future but generations to come, eventually one of these countries will see a change of government and perhaps decide to divert nuclear material from electrical generating purposes for the purpose of making bombs?

Mr. CONAHAN. We believe that the Non-Proliferation Act, with certain modifications, provides a framework for the United States to continue living in the world in which we find ourselves. We believe that we need to take a look at some of those changes. We think some of them would enhance safeguards, timely warning, and these sorts of things. To that end we are willing to work with this committee and the Congress to try and bring them about.

Mr. MARKEY. I understand it is not your job to make the policy decisions, but I do want to thank you for raising the questions. I think you really do provide a very valuable service to us in bringing forth this information that makes it possible for us to debate the issue in an informed manner; I do think probably the major

question our society will have to face in the near term is how long we are going to continue to export bomb grade material to people who really do not have any intention of using it for electrical generating purposes but rather primarily to use it to construct bombs. We must get set in our American psyche that we think of nuclear powerplants at Seabrook and Three Mile Island as primarily generators of electricity and bomb factories as a byproduct but that many Third World countries think of them as primarily bomb factories that have a wonderful byproduct of electricity. It is something that unfortunately has not yet penetrated, not only the American general public's mentality but also that of Congress in reaching the real reason why most of these countries want access to the technology. Reports like these are invaluable in helping to focus us on that question.

Thank you, Mr. Chairman.

Chairman ZABLOCKI. Mr. Hamilton.

DELETING TITLE V

Mr. HAMILTON. One of your recommendations, I believe, is that we should delete title V of the act. Could you give me your thinking as to why you think that should be deleted?

Mr. CONAHAN. In the first place, there has not been any funding of the programs called for in title V. Nor indeed has title V been used as a justification for funding anywhere else in other programs. Also, the title itself calls upon the administration to provide assistance to less developed countries in developing nonnuclear energy. That could be read, we feel, based on our interviews, as denying something to those LDC's which we already have. It is an international problem that is created unintentionally and unnecessarily because other agencies, such as the Agency for International Development, Export-Import Bank, and the Peace Corps, do conduct nonnuclear energy development and assistance programs. We feel that those agencies and those programs are the most appropriate vehicle for this sort of program.

Mr. HAMILTON. Is the present law, title V, kind of a dead letter?

Mr. CONAHAN. Yes. We think it could be easily repealed and we would be better off for it.

Mr. HAMILTON. Is there any adverse signal to the less developed countries that would be sent if we repealed it?

Mr. CONAHAN. I think we would need to accompany it by a statement, a sense of the Congress sort of statement, that these programs are otherwise provided for, always have been, and will continue to be. And this simply is a mechanical cleanup of this particular piece of legislation.

Mr. HAMILTON. You do not see any big minuses to repealing it?

Mr. CONAHAN. No, sir.

NRC'S EXPORT FUNCTIONS

Mr. HAMILTON. The second question relates to the role of NRC in export policy issues. You know, I am sure that there has been some criticism of the NRC performing that role, that it diverts them from their safety functions when they get involved in export

policy. What is your feeling on that? What is your recommendation with regard to that?

Mr. PEACH. Our basic position, after looking at how NRC has performed in carrying out their mission that evolved over 3 years, was that we did not see any compelling evidence that suggested NRC should be taken out of the process.

Mr. HAMILTON. What do they contribute to the process?

Mr. PEACH. Basically they were put into the process, as we look at the act, to provide an independent check to see that all the criteria in the act were adequately fulfilled. They also can make some technical checks.

For example, when looking at highly enriched uranium they can also provide extra technical checks as to whether the level of enrichment requested is actually required to meet the needs of that research reactor. So certainly they have the technical expertise to work in that kind of area.

When looking at the question of whether it diverts them from their safety functions, one must put that in perspective. They have a 15-person staff involved in this particular area out of 3,300 people and these 15 people have no safety-related function. They are just off on the side involved in the export licensing responsibility. The trend has been to delegate more of the approval over time down to those 15 people such that the Commissioners spend less of their time on export license requests. You have to remember this act has been in effect for 3 years and it has been a learning process. What the staff is able to handle has progressively increased over the years from the first year to the third year such that the time of the Commissioners is much less decreased in their involvement.

Mr. HAMILTON. So you do see a positive benefit from having to participate in the export policy process even though it is a very small aspect of their operation.

Mr. CONAHAN. Right. I think the question that the Congress would have to look at—and there have been objections raised—is whether they would like to have some other alternative arrangement to the extent that NRC involvement is intended to augment or to assist in congressional oversight and provide this independent check. We did mention in the report alternatives that are available such as the process used for arms export sales. These are alternative arrangements for triggering congressional review. So you can look at alternatives but we did not find a reason to recommend taking NRC out. If Congress wants to reopen this issue, I think it will have to reopen it as a policy question.

TMI STUDIES DID NOT ANALYZE EXPORT ISSUES

Mr. HAMILTON. Did reports that came out after the Three Mile Island incident get into this question at all with NRC? Did they make any recommendation with regard to the export policy?

Mr. PEACH. There is no doubt that is a part of what deals with the controversy. The report put out by the Kemeny Commission, and another report put out by a group that was involved in looking at their operations, both recommended that NRC have removed from it anything that would deter it from its safety responsibility and this, of course, is related to export licensing.

Mr. HAMILTON. Their judgment was that it was diverting attention?

Mr. PEACH. In the context of looking at this we could not support it on the basis of the amount of diversion that was taking place at NRC from its safety functions.

Mr. HAMILTON. They had no supporting evidence of any kind for that recommendation?

Mr. CONAHAN. The chief supporting evidence was that the majority of the Commissioners at that time felt that NRC should be removed from the process. With the present makeup of the Commission, four sitting Commissioners, my understanding is they would split two to two: Two of them would suggest removing NRC from export licensing and two think NRC should retain the responsibility. So there is disagreement even on the Commission.

Mr. HAMILTON. So other than the opinion of the Commissioners you cite, was there any other evidence or analysis within those reports that led them to think there was, in fact, a diversion from the NRC?

Mr. PEACH. No, there is not.

Mr. HAMILTON. Kind of a seat of the pants judgment then. Is that it?

Mr. PEACH. We looked at the facts as best we could gather them as to what was happening and how it was happening. As we looked at the facts of the development over 3 years, we did not see a basis for suggesting they be taken out of the process. We think if such a judgment is going to be made it will have to be made more on a policy basis of whether it is an appropriate role for NRC to provide that independent check.

Mr. HAMILTON. Thank you, Mr. Chairman.

Chairman ZABLOCKI. Mr. Shamansky.

FACTORS WHICH COMPRISE U.S. EXPORT COMPETITIVENESS

Mr. SHAMANSKY. The GAO states in the report on page 13 that the impact of the act per se on the competitiveness of U.S. nuclear export could not be specifically determined. Could you elaborate for us on the range of considerations which have affected the nuclear industry's competitiveness, particularly in the light of the story which appeared recently in the New York Times indicating that Westinghouse believes that the availability of financing is the key issue in capturing foreign markets?

Mr. CONAHAN. We think that there are a number of factors involved in making a sale. Financing certainly is one. Price is another. The ability to service is yet another. Quality is another. In the case of nuclear equipment and material, another factor is the underlying agreements that exist between us and a foreign government—their feelings on whether we will be a reliable supplier of fuel. There are just an endless number of considerations that go into a decision as to whether to buy a particular piece of equipment. Over the last several years there have been a number of things that we need to consider in determining whether or why we may have lost sales. There has been a decline in the world market generally in this area. There has developed more foreign competition. Ten years ago there simply was not that competition out there. It is there today. U.S. policy, as we have outlined in our

testimony, has had a certain negative effect generally speaking. Going back before that, 6 years ago we closed our books for enrichment services; that had a negative impact. We changed the terms of the enrichment contracts as a matter of fact. There are just an endless number of things and thus you cannot point to the act, per se, in our judgment, as having been the dominant factor in any given sale. We have gone to the industry and attempted to get from them information which upon our own analysis would lead us to that conclusion and we were unable to do so.

Mr. SHAMANSKY. Is it true that the American market for nuclear plants has been dropping steadily which has nothing to do with this particular act?

Mr. PEACH. Yes, that is very true. You run into estimates that indicate we may have 200 light water reactor plants operating by the year 2000 which is substantially down from the number we thought we would have operating just some 3 or 4 years ago throughout the 1970's. It has been dropping.

Mr. SHAMANSKY. So to what extent might concerns as to the competitiveness of international nuclear markets give impetus to potentially unwise nuclear exports from the proliferation standpoint?

Mr. CONAHAN. Are you suggesting that foreign suppliers may make sales that we might not choose to make in line with our own policies?

Mr. SHAMANSKY. I was thinking there might be pressure to export these items from this country in order to defray some expenses connected with our own American domestic construction. In other words, a wider market which would spread the cost around. Is there any indication of anything like that?

Mr. CONAHAN. I have not seen any.

NUCLEAR FUEL CYCLE AND PROLIFERATION

Mr. SHAMANSKY. In its review of U.S. nuclear export policy, the Atomic Industrial Forum, the Nuclear Industry Trade Association, states that "A strong domestic nuclear program is essential to U.S. leadership in achieving its non-proliferation goals." Would you respond to this statement, especially in light of the reference in the GAO report to the direct link between nuclear proliferation and the nuclear fuel cycle?

Mr. PEACH. Well, of course, I think those are reconcilable kinds of comments. What you have to deal with in terms of a strong nuclear program is—if the United States does not have a nuclear program as such or is not active to some degree in this area, it makes it very difficult to be an actor on the international stage in influencing what is happening in general terms. So on that side I would make that comment. As we recognize in the report, we think some linkage can be made between certainly the fuel cycle in total and nonproliferation. It is much more direct when you deal with reprocessing areas in terms of potential; but you also have potential when you deal with areas of the existing generation of light water reactors for potential diversions and for developing nonproliferation problems. There have been a number of studies made—it might be good to add—by a lot of people as to whether we could develop proliferation-resistant fuel cycles, proliferation-resistant re-

processing methods, proliferation-resistant reactor technologies; and none that I have seen that have looked across the board have come up with any support to counteract the argument of proliferation problems of reactor technology. There may be matters of degree; but you do have proliferation problems in every one of them. So you are going to have to deal with the safeguards kinds of approach.

Mr. SHAMANSKY. If I remember correctly from the "Harvard Business School's Energy Future," in their energy report it was stated with respect to nuclear power that one of the basic problems is no one knows what it costs and it is basically an unknowable factor. In your study did you look into that from the commercial aspect, that the countries overseas really do not know what it costs and are they going into it because they do not care what it costs and they just want to get the capacity to make nuclear fuel?

Mr. PEACH. I would suggest there are questions that can be raised about that. Many statements have been made as to what the cost of nuclear power is and you have to look at the assumptions carefully to understand what they are based on. They vary widely, so there are questions in that area.

There is another driving factor for foreign countries, at least some of them, to decide on nuclear options. In many cases they are looking at a situation where they try to be more independent on energy needs and not having large energy resources residing within the country—nuclear is one way in which they can increase their independence and that becomes a major factor. That was one of the major factors in France's move to create a strong nuclear program.

Mr. SHAMANSKY. Thank you, Mr. Chairman.

IMPACT OF NNPA AND CARTER POLICIES

Chairman ZABLOCKI. Your report indicates that the criticisms of the Nuclear Non-Proliferation Act for being unilateral and retroactive are exaggerated. Of course in your report you say the safeguards requirement in the law has considerable merit. We think so too. But for the record, how did you come to these conclusions? Was there exaggerated criticism of the full-scope safeguards requirement? The Canadians have even more stringent full-scope safeguards conditions than our own; that is, to the extent Canada requires a commitment to submit all future facilities to safeguards. Would you care to comment on that?

Mr. MURRAY. One of the things we found as we talked to people overseas was that their basic concern was about how the United States was going to respond after the Carter administration said it was against reprocessing. What was that going to do to them? They did not differentiate between what was in this law and what the U.S. policies were or what our policies might be domestically. They lumped them together and saw an antinuclear syndrome, so to speak. Once you got beyond that and you started talking about the details of the thing, their concerns did not lie so much with the law, but elsewhere.

Mr. PEACH. If I could add a thought to that, too. You will find a discussion in our report dealing with long-term and short-term impact. We point out that some of the impacts had been limited in

the short term but try to raise the level of consideration to the fact that the Nuclear Non-Proliferation Act in effect represents a long-term agenda in terms of the direction we want to go in this area. Some of the things you would like to accomplish in the act, in terms of international long-term agenda, do not happen overnight. They require hard and difficult negotiation in working with foreign countries and basically we think the direction is right; the question is, What can we learn from experience in the last 3 years in refining this piece of legislation to make some of the areas work better and also get on about the long-term agenda of trying to deal effectively with nuclear nonproliferation questions?

REACTORS MEANT FOR ENERGY PROGRAMS COULD GIVE WEAPONS CAPABILITIES

Chairman ZABLOCKI. Could we have your view, since there is evidence and certainly there is a perception in the minds of many, that in exporting nuclear reactors and nuclear fuel for energy it automatically brings about the potential for nuclear weapons. Yet it is also often heard that civilian nuclear energy programs do not necessarily provide the easiest nor the cheapest way of acquiring material for nuclear weapons; that the best way is to build a facility solely for that purpose; that civilian programs have received undue scrutiny and concern. What are your reactions to these assertions? Is my understanding correct that if a country wants to go for nuclear weapons they can go directly toward that end or through a nuclear reactor for civilian use or for energy purposes, and unto, the next step, weapons?

Mr. CONAHAN. Clearly the countries that have acknowledged nuclear weapons capability have gone directly to that capability. Some others may have that capability through the civil nuclear energy route. I do not think we can come to a conclusion on the basis of the work that we did. There is clearly the link and clearly the opportunity for a nation with the political will to do so, to get to a weapons capability from a commercial nuclear base.

Mr. PEACH. I would add to that by saying the direct way is the most direct way to get there. But there is that link in the civilian area. You lower the technical barriers, you gain understanding and you produce the spent fuel that is susceptible to being made into weapons grade kinds of material; so you do have that link. I think you have to recognize that and I think that is why when you move to the international safeguards, even in those areas you want to have strong safeguards.

EXPORTING HIGHLY ENRICHED URANIUM

Chairman ZABLOCKI. There is concern about the sale or export of highly enriched uranium for research purposes. Is this concern valid, that it would add to the proliferation of nuclear weapons, and if so, what should be done about it?

Mr. PEACH. When you deal with highly enriched uranium you have to be more careful with your controls because you are dealing with weapons grade material.

Chairman ZABLOCKI. Do you have any information as to where such highly enriched uranium for research purposes was misused?

Mr. PEACH. We do not have any direct information in that regard. But that is an area in which I would suggest you do have to be much more careful in terms of controls you exercise. I would mention there have been research efforts in working to reduce, and to look carefully at, the level of enrichment needed for a particular research reactor. In other words, do you have to get it up to this 93, 94 percent kind of level? Can you deal with a lesser level? There is research in areas of trying to reduce the level of enrichment needed by research reactors to a lower level. It would be in terms of medium enrichment, maybe 30- or 40-percent range. I think research in those kinds of areas, too, also is highly desirable, to try to reduce the level of enrichment needed for research reactors.

INTERNATIONAL COOPERATION

Chairman ZABLOCKI. I made a final conclusion about this. The bottom line is that we let the genie out of the bottle and there is no effective way of ruling him.

Mr. CONAHAN. We have to continue to try.

Chairman ZABLOCKI. How will we get him back in the bottle?

Mr. PEACH. That is the difficulty. And I think that is why having the appropriate kinds of approaches in the international cooperation area is so important. We need to work together with other countries, because there are other countries involved in this.

Chairman ZABLOCKI. On behalf of the committee, and certainly for myself and Chairman Bingham, I want to thank you gentleman and commend you for the report. I think it will be carefully reviewed and studied. We hope to keep in touch with you on this as we proceed in the consideration of the possible amendment of the Nuclear Non-Proliferation Act. Thank you, gentlemen. The subcommittees stand adjourned subject to call of the Chair.

[Whereupon, at 11:45 a.m., the subcommittees adjourned, to recovene at the call of the Chair.]

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