

美國의 非核擴散 政策 - 規制展望

U.S. Nonproliferation Policy

A Regulatory Perspective

Richard T. Kennedy

Commissioner

U.S. Nuclear Regulatory Commission

REMARKS BY
COMMISSIONER RICHARD T. KENNEDY
U.S. NUCLEAR REGULATORY COMMISSION
BEFORE THE
JAPAN ATOMIC INDUSTRIAL FORUM ANNUAL CONFERENCE
TOKYO, JAPAN
MARCH 14, 1978

U.S. NONPROLIFERATION POLICY: A REGULATORY PERSPECTIVE

I am pleased to have this opportunity to meet with you this afternoon. The invitation which the Japan Atomic Energy Commission and the Atomic Industrial Forum of Japan extended to me is a great honor indeed and one which I deeply appreciate. The timing of this session is particularly fortuitous, coming as it does within days of President Carter's signature into law of the Nuclear Nonproliferation Act. of 1978.

The theme for this session — "Atomic Energy Development and Its International Perspectives" — focuses on some of the key issues facing energy planners throughout the world. For on the future of atomic energy will depend much of the world's economic strength, at least through the end of this century.

Of the many and varied international perspectives on nuclear energy development, the one which has come to dominate much of the attention of industry, governments, and people alike is the potential proliferation risk. Some fear that this risk will grow as an inevitable consequence of the widespread use of nuclear energy.

For those of us who believe this energy source will be an increasingly significant component of the world's energy supply, the challenge of containing possible proliferation risks must be met. But to do so will involve not only long-range political and institutional initiatives, but also more immediate technical measures. For unless we are successful in alleviating the concerns voiced by many in the public over the possible dangers of the expanded use of nuclear energy, its continued use as a source of energy, however much it may be needed, will be uncertain at best.

In that light, then, I would like to take a few minutes today to review with you the current thrust of United States nonproliferation policy. In doing so, I will focus on three broad aspects of that policy:

- modifications we have made in our domestic nuclear program;
- international initiatives, notably the International Nuclear Fuel Cycle Evaluation; and
- changes in our nuclear trading relations with other nations resulting from passage of the new nonproliferation legislation.

When the Carter Administration took office a little over a year ago, it saw the problems of meeting the energy needs of the United States, and indeed the world as a whole, as one of the foremost issues before it. Nuclear energy clearly had an important role to play but was increasingly at the center of heated controversy. A key question then was how to make nuclear power available to meet world energy needs without simultaneously accelerating the spread of nuclear weapons capabilities. The Administration, therefore, undertook a study on an urgent basis, using the many studies and reviews done over the preceding two or three years, as a platform, to focus the issues and to seek potential solutions.

What followed is history well known to all of you. On April 7 last year, President Carter outlined his nuclear energy policy. He reiterated the growing concern over the prospects for weapons proliferation, and he singled out, as a special source of concern, the potential spread of sensitive enrichment and reprocessing facilities which could provide access to weapons usable material.

To meet the challenge posed by plutonium and related technologies, the President announced a major change in U.S. domestic nuclear energy policy and programs. At the same time he called for a concerted effort among all nations to find

better answers to the problems and risks accompanying the increased use of nuclear power.

The Administration adopted a strategy which included six elements: (1) (L) making the international safeguards system more effective by insiting upon comprehensive safeguards; (2) exercising self-restraint in the transfer of sensitive technologies and material that can contribute directly to weapons until we have learned to make them more safeguardable; (3) creating nonproliferation incentives through fuel assurances and assistance in the management of spent fuel; (4) building consensus about the future structure and management of the nuclear fuel cucle through studies in the International Nuclear Fuel Cycle Evaluation that first convened in Washington in October; (5) taking steps at home to ensure that our domestic nuclear policy was consistent with our international objectives; and (6) taking steps to reduce any security or prestige reasons thar might impel states to develop nuclear explosives.

When the policy was first articulated a year ago, some interpreted it as being anti-nuclear. This is simply not the case.

In his April stetement, the President specifically recognized that many nations see nuclear power as the only real opportunity to reduce their dependence on imported oil. He

termed the benefits of nuclear power "very real and practical." I should note that he recently reiterated those views on the future of nuclear energy. He observed that, after all other possible energy sources are explored, there is still a need in the foreseeable future for nuclear power. And he added that the safety record of our nuclear power plants is far better than the safety record of power plants that are fueled by oil or coal.

What the Administration's policy seeks is an international consensus on the desirability of the further spread of nuclear weapons and on the nature and management of the fuel cycle. The President's position on sensitive facilities was based on his belief that there is still time to explore the technical and economic feasibility of alternative fuel cycles which are more proliferation resistant. Thus, in our own nuclear power program we have deferred commercial reprocessing and plutonium recycle and have restructured our fast breeder program.

The recent order of the Nuclear Regulatory Commission on the Generic Environmental Statement on Mixed Oxide Fuel -- the so called GESMO -- is consistent with this policy. That order announced our decision to terminate the four year review of the health, safety, safeguards, and environmental impacts associated with plutonium recycle in the United States.

One factor in the Commission decision was the President's view that his nonproliferation initiatives would be assisted both domestically and internationally if the Commission were to terminate recycle-related proceedings. Personally I would have preferred using a term such as "defer" rather than "terminate". This would have given our action less of a tone of finality. Nonetheless, the practical effect of our decision is the same. We will examine the issues again in approximately two year when the results of the alternative fuel cycle studies are available. Meanwhile we will publish for reference purposes the NRC staff studies which were done to support the GESMO proceeding.

Our policy on fast breeder development also was misunderstood in some quarters. Simply stated, the U.S. opposes premature movement toward a breeder economy where the presence of directly weapons-usable material would be widespread. But I would suggested a moratorium on the breeder programs of other nations. We fully recognize that many nations are far more dependent on energy imports than we, and that their problems and perspectives therefore are different. We believe, however, that there is time to review the fuel cycle alternatives to find more proliferation proof means before commercial use of the breeder will be needed. President Carter put it this way, "I have no objection to breeder reactors. I don't think their

time has yet come." Indeed, we are spending in this fiscal year alone nearly \$400 million on our own breeder research even though steps toward early commercialization have been halted.

The U.S. policy was forged with full recognition that to be successful it also must make provision for assured nuclear fuel supplies. Only then would the motivation to acquire sensitive facilities be diminished. Thus we had to take steps to assure a supply of nonsensitive nuclear fuels on a timely and economic basis at the front end of the fuel cycle and, at the same time, assure sufficient storage capacity for spent fuel and nuclear waste at the back end.

To this end, the U.S. has taken a number of actions.

- U.S. enrichment capacity is to be increased;
- the President has called for the establishment of an international fuel bank; and
- we have indicated a willingness to take back limited quantities of spent fuel from other countries where this would support our nonproliferation objectives.

On the international scene, President Carter called for an International Nuclear Fuel Cycle Evaluation. The response was dramatic. Forty-four nations are participating in an examination of all aspects of the nuclear fuel cycle. Eight working

groups dealing with uranium availability, enrichment capacity, reprocessing and breeder alternatives, spent fuel and waste disposal, and advanced reactor fuel cycle concepts are off to a good start. And, may I say at this juncture, how much we welcome the contribution Japan has already made to this enterprise, particularly through its co-chairmanship of the reprocessing working group.

Our objective is not to solve all of the world's nuclear energy problems, but rather to find, as one observer put it, "combinations of time, technology, and institutions that can produce a more safeguardable fuel cycle." We are seeking alternatives to an economy based on the separation of pure plutonium or the presence of highly enriched uranium, methods to deal with spent fuel storage, and methods to improve the safeguards for existing nuclear technology. For our part, we view this effort as a truly international enterprise and are approaching it with an open mind as to its conclusions.

It is against this backdrop that the debate over nonproliferation legislation proceeded in the United States for nearly two years. Throughout the difficult negotiations on the proposed legislation with both houses of the Congress, provisions which might have led to a de facto moratorium on U.S. nuclear exports were vigorously opposed by the Administration. For

it was well recognized that if the new nuclear policy was to have a chance of success, our reputation as a reliable supplier of nuclear material and fuel must be retained and enhanced. And it was equally well recognized that the international safeguards regime must be strengthened. Often conflicting goals made final drafting an unusually difficult chore. How successful the result has been remains to be seen, as there are certain provisions of the Act. which clearly will need considerable care in implementation.

Let me discuss for a moment a few of the more significant features of this new law -- the Nuclear Nonproliferation Act. of 1978.

Reflecting the deep and widespread concern over the proliferation implications of sensitive technologies to which I have alluded, the Act. establishes new controls over enrichment, reprocessing, and the transfer of sensitive nuclear technology, The Act. prohibits the export of major components of enrichment, reprocessing, and heavy water facilities, unless an agreement for cooperation specifically designates such components as items to be exported. Moreover, U.S. supplied material may not be enriched after it has left the United States unless the U.S. has given prior approval.

As to reprocessing, U.S. consent to retransfers for that purpose may be given only if there will not be a significant increase in the risk of proliferation. Foremost consideration will be given to whether the reprocessing or retransfer will take place under conditions that will ensure timely warning of any diversion. An exception to this standard is made for reprocessing at facilities that have processed power reactor fuel assemblies prior to the date of the law. But even in these cases, Congress made it clear that efforts should be made to assure, where possible, the same timely warning standard.

The Act. also sets out stringent new requirements that must be incorporated in new or amended agreements for cooperation. New agreements, for example, must provide for U.S. approval rights over both the retransfer and the reprocessing of U.S. - supplied material or material produced from it, and for guarantees covering the transfer of sensitive nuclear technology. In order to assure the proper protection of materials, the new agreements must also provide for adequate physical security arrangement and for approval rights over the storage of plutonium and highly enriched uranium supplied by the U.S. or recovered from material or reactors supplied by the U.S.

As to nuclear weapons, new agreements also must provide for guarantees that a nation receiving U.S. nuclear materials

will not use them to produce a nuclear explosive device; and the agreements also must provide for sanctions in case the recipient nation either detonates such a device or terminates or abrogates an IAEA safeguards agreement. Perhaps the most important, and likely most controversial, requirement is that new agreements for cooperation must provide for full fuel-cycle safeguards -- in other words, safeguards must be applied not only to U.S. - supplied material and facilities and material derived therefrom, but also to all peaceful nuclear activities in a non-nuclear weapon state.

One or more of the many requirements may be waived by the President. The likelihood of frequent waivers I suspect will be remote, however, because of the need to make this a uniform nondiscriminatory policy. Any Presidential waiver, I should note, would be subject to review by Congress.

The law also directs the President to initiate a program immediately to renegotiate existing agreements for cooperation in order to incorporate in them provisions that would be required in new agreements.

In developing this legislation, both the Carter Administration and the Congress recognized the need to balance the constraint and control provisions of the legislation with a program of incentives designed to make the U.S. an attractive and

responsible nuclear supplier. To this end, the Act directs the Secretary of Energy to proceed with the construction and operation of expanded uranium enrichment capacity and to develop international approaches to meeting future worldwide nuclear needs. These would include an international fuel authority which could provide fuel services and establish repositories for storage of spent nuclear fuel. The President is also directed to report to the Congress on the desirability on inviting foreign participation in new U.S. uranium enrichment facilities. I emphasize, however, that these fuel assurances would be for countries that adhere to policies designed to prevent proliferation.

Perhaps the real keystone of the new law is the set of six new export licensing criteria which will be immediately applicable to all nuclear exports. Before authorizing an export the Nuclear Regulator Commission must find, based on a reasonable judgment of the assurances provided and other information available to the U.S. government, that six criteria or their equivalent are met:

1. IAEA safeguards must be applied to exported items.
2. No export may be used to develop any nuclear explosive device, including so-called peaceful nuclear explosives.

3. Adequate physical security must be maintained. The word "adequate" is used because certain nuclear exports are not sufficiently important to present any problem in the event of theft or sabotage;
4. No export may be retransferred without the prior approval of the United States, and no such approvals may be granted unless the third party agrees to adhere to all the new export criteria.
5. No exported material may be reprocessed or altered in form or content without prior U.S. approval.
6. The foregoing must be applied to any nuclear material or equipment produced or constructed through the use of any sensitive nuclear technology which is exported from the United States.

These six criteria, which are now in effect, will be supplemented by an additional requirement to take effect after eighteen months. At that time, IAEA must apply safeguards to all recipient country's peaceful nuclear activities at the time of the export. This will not require a pledge that full-scope safeguards will be maintained indefinitely into the future, as is required under the Nonproliferation Treaty, but rather, that all existing peaceful nuclear activities are safeguarded at the

time of the export. Under extraordinary circumstances, and subject to Congressional review, the President may waive this criterion if he determines that failure to approve an export would seriously prejudice United States nonproliferation objectives or would otherwise jeopardize the common defense and security.

It is evident from what I have said that this new law has given major new responsibilities to the Nuclear Regulatory Commission. When one speaks of a regulatory agency, one normally thinks of domestic regulation. Indeed, the Commission does have exclusive regulatory jurisdiction over the civil uses of nuclear energy in the United States, but it also is responsible for licensing exports of nuclear materials and facilities. Our domestic health and safety responsibilities are governed by a stringent regulatory framework. But in export matters, the range of our considerations goes well beyond any single framework and entails judgments on a variety of factors.

In looking at the Commission's responsibilities, it is important to recognize that NRC is an independent agency of our government. It is not directly responsible to the President. Our judgments are ours alone to make. We are guided, but not governed, by the President's policy.

The new nonproliferation legislation specifies the criteria which must be met before an export can be approved. But the Commission is also required by law to find that the export will not be inimical to the common defense and security of the United States; that is, it will not damage important U.S. interests. In making this finding, the Commission must consider matter which inevitably will involve our foreign relations. In other words, the Commission must also take into account the broader international framework in which the particular export will take place. In doing so, we must rely heavily on the recommendations of the State Department and other agencies which are directly responsible to the President. For it is the President who has primary responsibility for the conduct of our foreign relations. For us to do otherwise would place the NRC in a position to take actions on its own in matters affecting our foreign policy, separate and apart from the actions of the President. This, in my view, would be an undesirable if not an untenable position.

Until now the Commission has had the final say on any given export. Not even the President could overrule a negative decision on our part. Under the new law, however, if the NRC decides not to issue a license the President has the authority to reverse that decision. To do so, however, he again must

find that withholding the export would seriously prejudice the achievement of United States' nonproliferation objectives, or would otherwise jeopardize the common defense and security. If the President were to reverse an NRC decision in this way, his action would be subject to review by Congress.

This new authority for the President simply recognizes that the final decision should be his in cases where he believes the Commission's view to be incompatible with the essential foreign policy or national security policy objectives of the United States. I would add that the Commission fully supported this provision.

The new law also emphasizes the importance of expediting the export licensing process. Indeed, it directs the Commission to develop procedures which will assure that export licenses will be processed quickly. The State Department and other agencies are required to provide their judgments to the NRC on a pending license within sixty days, unless the Secretary of State authorizes additional time. And to extend the time the Secretary must determine that it would be in the national interest to do so.

The Nuclear Regulatory Commission is required to act on licenses in a timely fashion "upon a determination that all applicable statutory requirements have been met." If the NRC

has not acted upon a pending export license within 60 days after receiving the Administration's recommendation, it must inform the applicant in writing of the reason for delay. If, after an additional 60 days, the Commission has not acted upon the application, the President himself may authorize the export

Those then are some of the principal features of the new export law. It is clear that some aspects will require careful implementation if we are to achieve one of its fundamental objectives — recognition of the United States as a reliable nuclear supplier. For the United States to continue to exercise positive influence in its effort to reduce the dangers of proliferation, it must be able to engage in nuclear commerce — and others must be willing to trade with us. Otherwise, the nonproliferation constraints embodied in the new Act will be of little meaning.

The Act calls for safeguards and controls not previously required in connection with U.S. exports. But these should not be taken to mean that the United States has any less confidence in the reliability of its allies and trading partners. Nor are we less committed to assist other nations in the development of safe nuclear power to meet legitimate energy needs. Rather, as I have tried to indicate, the new legislation simply reflects the growing perception that we must pay a

certain price in increased safeguards against the risks of proliferation if we are to realize the benefits that will flow from the increased use of nuclear energy, Short term adjustments will be required in our trading relationships. But we believe these adjustments are not so profound as to be beyond the reach of serious negotiations between friends whose objectives are substantially similar,

For example, in new or amended agreements for cooperation, we are required to obtain U.S. approval rights over the reprocessing of non-U.S. origin fuel irradiated in U.S.-supplied reactors. We will also be seeking to achieve these rights in existing agreements through a program of renegotiation, as required by the new law. But, in doing so, we will continue to be mindful, as I said earlier, of the energy needs of nations who are forced to import far more of their energy resources even than we. Those two needs — energy sources and minimum proliferation risk — make it all the more important that we work together towards reaching agreement on more proliferation-resistant fuel cycles for the future.

Another provision which may be controversial is the full-scope safeguards export criterion that comes into effect after eighteen months. Some may argue that an agreement of this kind would be equivalent to adherence to the Nonproliferation

Treaty. This may raise questions for those few nations who, for varying reasons, have chosen not to adhere. But, again, the long-term nonproliferation benefits to be achieved will, I would argue, outweigh the short-term costs which some may perceive in the inevitable adjustments resulting from acceptance of such a safeguards regime.

As I mentioned earlier, the Commission must make a determination in each export license case that the issuance of the license will not be inimical to the common defense and security of the United States. A key factor in reaching this conclusion is the assessment of the adequacy of safeguards. Clearly the Commission in reaching its judgment in this regard must depend heavily upon the advice provided to it by other agencies of the government. Moreover, it must rely heavily upon the work of the International Atomic Energy Agency in its implementation of safeguards programs. It is important to us all that efforts be made to strengthen in every way possible the ability of the IAEA to fully discharge its vital safeguards inspection responsibilities. And in implementing the new law, we will be mindful of that need and the need to assist the Agency in its efforts to strengthen safeguards regimes.

I know too that many of you have heard that the new law is so complex as to create a procedural morass into which

licenses will disappear and from which they can hardly be expected ever to emerge. I do not want to minimize the complexity of the law. But neither do I believe that it is so complex as to be unworkable or even so difficult as to pose a serious impediment in the licensing process.

It does set forth some complicated procedures which involve the President's right to reverse decisions of the Nuclear Regulatory Commission and Congressional reviews of those decisions. But as I suggested earlier such cases are likely to be very rare indeed. They surely will not be the rule. Nor should we forget that time limits have been set for action by our bureaucracies. And those experienced in the ways of bureaucracies will know that is sure to help the process.

I am confident that we can find the way to make the process work and work well. We must. For only then, can we assure a regularized and predictable process so necessary to effective commerce in any field, including nuclear.

I am not here to downplay the problems we face. These next two years will undoubtedly be a difficult transition period, as we set about implementing the new law and grappling with the highly complex technical and economic problems in the context of the International Nuclear Fuel Cycle Evaluation. But, I would assert, we have come a long way since this time last year

in achieving a greater common appreciation of the problems and prospects before us.

Our objective -- yours and ours -- must be to reach a consensus on an effective international nuclear economy which recognizes and deals realistically with the risks of nuclear proliferation. But this consensus must reflect the reality that many, if not most, nations depend to a greater extent than the United States on fuel imports to meet their energy needs. For them, it is absolutely essential to have an uninterrupted source of supply.

It is very much in our mutual interest for the United States to continue its traditional role as a reliable supplier. If we do not, we will all be losers. For I believe, and I know this audience agrees, that nuclear power is a reliable and vital component in the world's future energy mix. So let us strive together to reach this consensus.