



# UNITED STATES NUCLEAR REGULATORY COMMISSION

Office of Public Affairs  
Washington, D.C. 20555

No. S-9-79

FOR IMMEDIATE RELEASE

Remarks by  
John F. Ahearne, Commissioner  
U. S. Nuclear Regulatory Commission  
before the  
American Nuclear Society Executive Conference  
New Orleans, Louisiana  
September 11, 1979

### Does the Emperor Have Any Clothes? 1/

I am pleased to have this opportunity to address some aspects of international nuclear commerce. I have been on the Nuclear Regulatory Commission for slightly more than one year, and for the first six months international affairs was a major part of our business. It was time to pull together some thoughts on international aspects of nuclear regulation. This invitation was both a stimulus to do so and the opportunity to present them.

Because of the short time available today, I will address only two points. First, what causes proliferation? What is it that should not be spread? Second, what is and should be the role of the Nuclear Regulatory Commission in international nuclear commerce?

Before going on with this talk, I would like to ask a few questions to get a little audience participation. These are simple questions. They really should not require much detailed, balanced, adjudicatory judgment and all I really would like is a raising of hands if the answer is "yes." The first question is: How many of you have ever designed a nuclear explosive device? That is, a device such as a nuclear weapon? Raise your hand if you have.

The next question is: How many of you are sufficiently familiar with the design of nuclear weapons to be confident that you could design a workable nuclear explosive device?

And the third question is: How many of you have ever witnessed the detonation of a nuclear device?

As you saw, in this room there are very few who answered "yes" to the questions. I might argue that you probably neither should say what will help non-proliferation, or what will not.

---

1/ The reference is to a folk tale "The Emperor's New Clothes," by Hans Christian Andersen.

Why does a country attempt to develop nuclear weapons? I am not a political scientist, and have not studied general theories of why nations act. However, from years of studying the military actions of many nations, I conclude there are three fundamental reasons why a nation would attempt to develop nuclear weapons:

- First, because of a clearly perceived danger to national survival, which the leaders believe might not be averted unless the country has nuclear weapons.
- Second, because of national prestige, in order to increase the country's standing among other nations, particularly in their area of the world. This would include increasing the prestige of the leaders in the eyes of the other people in the country -- for example, to take attention off of internal problems.
- And third, to achieve national goals.

Countries that have nuclear weapons, have exploded nuclear devices, or might either have nuclear weapons or nuclear weapons programs fit into these categories.

In the first category: South Korea, Taiwan, and Israel at one time or another may have discerned a clear national danger. Whether or not this led them to embark upon a nuclear weapons program has been a matter of speculation for years. Whether or not they did is not essential to my talk. I only mention that these countries could serve as illustrative examples for this category.

It is easy to be mistaken about why other people take actions and it is even easier to be mistaken about why other countries take actions. Nevertheless, India's explosion of a nuclear device appears to have been related primarily to an attempt to build up national prestige. The apparent Pakistani effort to develop nuclear weapons would be in the same category. It is doubtful that Pakistan or India felt, or feel, any great national danger. (It is possible that Ali Bhutto did perceive personal danger and the current Pakistani government may feel under similar internal pressure.) It is possible that some South American countries that have aggressive nuclear programs for the peaceful use of nuclear power might at some future time be tempted to shift to development of nuclear weapons for similar prestige reasons.

The development of nuclear weapons by the United States and Russia fits into a combination of the first and third categories: perceived national danger to accomplish national goals. The strategic forces of these two countries now are clearly major factors in their respective national policies.

If one accepts that perceived danger, national prestige, or national goals underlie countries developing nuclear weapons, then a successful non-proliferation policy must address these three reasons and either meet all of them or meet the one or ones that are the most germane, country-by-country.

For the perceived danger category, if a country really feels a strong imminent danger to its survival, the only acceptable alternative to the development of nuclear weapons may be to enter into a credible, protective arrangement. Unfortunately, today it has become extremely difficult to rely on any such protective umbrella. Therefore, the country feeling itself under this type of pressure is, I suspect, not very susceptible to arguments against developing nuclear weapons. It is possible that a threat can be made to cease valuable support if the country does not halt going in the direction of nuclear weapons. For example, the leaders of a country may conclude they must develop nuclear weapons. A major friend of that country may say: "You must not, and, if you continue, we will withdraw all of our economic and other support." That type of threat might dissuade the leaders from developing nuclear weapons.

For those countries who believe development of nuclear weapons is necessary to build up their national prestige, it is difficult to find an argument that will force them to stop. If the leaders feel a need to develop nuclear weapons because of perceived lack of prestige, then stopping would merely aggravate this lack. Consequently, the very action that one would want them to take would be the type of action that they would be least likely to be able to take. The threat approach can be tried in this situation, but I think it is less likely to be successful. It is possible that success might be achieved by giving this country additional aid and support, in the hope of building up their prestige. Unfortunately, a country might -- correctly -- conclude it is only the threat of the development of nuclear weapons that led to this additional support and might, therefore, also conclude -- probably incorrectly -- that if nuclear weapons were actually developed the support would be even greater.

Finally, it might appear possible to achieve national goals in some way other than by developing nuclear weapons. Unfortunately, the national goals for which nuclear weapons are a factor are more appropriate for major powers. For these countries, non-proliferation is not so much an issue for the outside world to raise, than it is one for themselves to consider. Countries such as Japan and the Federal Republic of Germany clearly have the technology and scientific ability to develop nuclear weapons. They have chosen not to develop nuclear weapons, apparently seeing no need for them and possibly seeing their development of nuclear weapons as being a detriment to achieving national goals.

Therefore, I am not optimistic about the availability of tools to address proliferation in those countries in which it is most likely to occur.

In addition to having these doubts, to explain what causes proliferation I believe it would be useful to answer several questions, such as the following:

-- Should any country have nuclear power? Some elements of the non-proliferation debate are really focused on this issue. This is not a direct proliferation question, but rather it is a question of whether nuclear power itself is a technology that should be supported. This particular question has obviously received increased attention after the Three Mile Island accident.

-- A corollary to this question is: Should the Less Developed Countries (LDCs) have nuclear power, even if the developed countries have it? An argument can be made that the technological effort required to adequately support a nuclear plant is out of proportion to the benefit achieved for one of the LDC's. Particularly would this be true were an accident to occur in an LDC. In that case, the paucity of sophisticated technical knowledge could lead to a real disaster.

-- Should the nuclear weapon states be treated differently from the non-nuclear weapons states? This is the discrimination issue, that is ostensibly India's problem with safeguards. In a recent speech Al Carnesale made an interesting point, which I quote:

"'Non-discriminatory' is a much-preferred characteristic of any policy, including any non-proliferation policy. Yet, the basic non-proliferation objective is fundamentally discriminatory, for it divides the nations of the world into two distinct groups: those that have and can keep nuclear weapons and those that do not have them and should not get them."

-- Does reprocessing assist proliferation of nuclear weapons? The corollary question is whether a no-reprocessing policy significantly hinders proliferation of nuclear weapons. You are all familiar with these issues and are probably pessimistic about whether there can be any reasoned development of either question on which all participants would agree.

-- What is the United States' policy on reprocessing? Is the policy to be against reprocessing for anyone? Is it against reprocessing when it is possible to be against it diplomatically? Is it against reprocessing only in the United States, where it probably is not economical?

-- Do IAEA safeguards prevent or hinder proliferation of nuclear weapons? I do not mean full scope safeguards, but rather IAEA safeguards per se. Is it possible that IAEA safeguards being applied to only some of a country's nuclear facilities can lead to the belief that proliferation is being constrained, whereas, in reality, it may be fostered because of the consequent total lack of inspection or knowledge of what is going on in the non-safeguarded facilities?

-- Should the United States Government inspect foreign facilities? This relates directly to the question of the adequacy of the IAEA safeguards system.

-- How adequate is the IAEA system? Many speakers yesterday described full-scope IAEA safeguards as being the answer. But are they adequate? A recent Congressional Research Service report by Slobodan Nakicenovic, long associated with the IAEA, raises serious doubts.

These are some of the questions I have with respect to explaining what causes proliferation. I believe these questions must be answered if one intends to develop a sound non-proliferation policy.

Now I would like to make a few comments on the role of the NRC in these matters. The Nuclear Non-Proliferation Act (NNPA) thrust the Nuclear Regulatory Commission into the middle of many sticky international issues. At the moment, it is not my intent to argue whether or not we should be there, but rather to comment on some of the problems of our being there.

But before starting, I would like to dissuade you from believing it is our involvement that has led to a drying up of U. S. nuclear export business. I am not so naïve as to believe that our involvement has not made it more difficult, but I believe the difficulties that the nuclear export business has are far greater than any the NRC might have inflicted. This is supported by a few numbers that many of you know, namely, the drop-off in the projection of installed nuclear capacity in other countries, independent of the source of that capacity -- that is, independent of whether the reactors to be built were Russian, French, Swedish, British, Canadian, or United States. If the reactors are not going to be built, there is not much business for the American nuclear exporter. You are familiar with the drastic drop in the projections in Iran. I do not think I should have to argue very long to convince you that really was not due to the Nuclear Regulatory Commission. A few of the other drops, using OECD and DOE estimates: In 1973, the nuclear capacity in Japan by the year 1985 was estimated to be 60 gigawatts, whereas the 1979 estimate was no more than 20 gigawatts by 1985. Mr. Ito yesterday estimated 28 gigawatts by 1985 -- which still is a big drop. In 1975, the nuclear capacity in the Federal Republic of Germany was expected to be 45 gigawatts by 1985, whereas the 1979 estimate was less

than 20 gigawatts. Similarly, for EURATOM as a whole, the estimates have dropped from 166 gigawatts by 1985 to a current estimate of about 60 gigawatts.

The Nuclear Non-Proliferation Act, while a signal achievement, has many problems with respect to procedures to be followed by the Nuclear Regulatory Commission. When I came on the Commission, I had great difficulty understanding what the NRC was supposed to do in the international area. I found the NNPA was particularly difficult to interpret in several places. It bears the marks of the compromises and the lengthy deliberations that went into trying to reach agreement, but in some cases does not appear to be very well crafted.

Therefore, I tried to put together a handbook of exactly what the NRC was to do. I attempted to summarize the Commission's formal involvement in nuclear export/import and international issues. I then sent this draft to many of the participants in the development of the NNPA. A few quotes will give you a flavor of the difficulties that I have as a Commissioner in trying to implement the NNPA.

With regard to whether the NRC should determine if safeguards applied are adequate, one senior official of the government said:

"This subject has been extensively addressed . . . and was also addressed during Congressional consideration of the NNPA . . . . It seems rather clear that the export criterion itself does not require specific determination of adequacy . . . ." (emphasis added)

And another senior official:

"While as a practical matter the NRC can always look at the 'adequacy' of safeguards, as a legal matter I think it is rather clear that this export criterion does not require any NRC determination of adequacy." (emphasis added)

On the other hand, a senior Congressional staff member:

"It is definitely intended that the Commission shall independently assess the adequacy of safeguards in connection with this criterion." (emphasis added)

Although it has not been an issue, my commentators also found the NNPA ambiguous concerning the development of nuclear weapons. Section 307 directs a cutoff of exports if a country is found to be doing so and refuses to stop. Is the Commission required to continue exports absent a Presidential

finding, even if there is strong evidence that activities described in Section 307 are taking place? A senior Congressional staff member said:

"The Commission is very definitely not required to continue exports if there is strong evidence that the activities described are taking place." (emphasis added)

On the other hand, several senior executive members said the President is directly given responsibility for making the finding, not the NRC, and that if the NRC has a problem they should write to the President, rather than acting unlawfully to terminate exports.

Another example of a weakness in the NNPA concerns the present consideration of the future application of full scope safeguards. As you know, we have had extensive debates on whether or not to license exports of fuel to Tarapur. This has led to a lengthy process in which we argued about subtle nuances in Congressional testimony, in Congressional hearings, in floor statements -- all because the Act did not address the issue of how to handle the Indian case. Although India clearly was a well known case at the time of the writing of the Act and the issue of Tarapur fuel certainly was not a mystery, the Act is ambiguous.

The NNPA did bring the NRC heavily into the nuclear export business. But the NRC really is not staffed as an international agency. About one percent of our people are in our international office, with another half percent working on international issues in other offices. In passing the NNPA, Congress did not change the basic charter of the NRC, did not significantly expand our organization with more people, but did significantly involve us in international affairs.

There are several major issues concerning the NRC's role in non-proliferation issues which I believe Congress did not adequately address. First, with regard to safeguards: Do we accept IAEA safeguards? If the IAEA has an agreement with a particular country and the facility in question is under IAEA safeguards, should we therefore conclude that those are acceptable safeguards? If the answer is "yes," the law should explicitly state that, and then NRC involvement is not needed. The State Department is quite competent in verifying whether or not IAEA has signed an agreement. In fact, the NRC gets its information on whether a facility attachment has been completed from the State Department. However, Congress waffled this issue, by neither requiring us to inspect nor denying us the ability to inspect.

This Congressional position was taken despite fairly clear statements by the NRC. For example in January, 1978, Commissioner Kennedy wrote to Senator Church, saying:

"Practically speaking, however, the Commission is not equipped to independently examine the adequacy of foreign safeguards . . . . The NRC's Office of Nuclear Material Safety and Safeguards . . . cannot reach independent conclusions on the effectiveness of international material control and accounting safeguards . . . ."

Perhaps there was a little confusion as to whether the Commission as a body endorsed this view. However, in February of 1978, the NRC Chairman wrote to the Chairman of the Senate Foreign Relations Committee:

" . . . no U.S. Government agency, including NRC, has direct access to country-specific IAEA safeguards confidential information . . . . The [NRC] staff has clearly advised . . . that, in the absence of country-specific detailed information it is not able to provide . . . independent evaluations . . . ."

"The Commission wishes to reiterate that it does not receive sufficient country-specific safeguards information to allow it to make an independent assessment of the adequacy or effectiveness of safeguards implementation in a country for which an export license is being requested."

Nevertheless, Congress neither explicitly required us to assess adequacy nor removed the implicit mandate to do so.

This now places us in a foreign policy role. It is a major foreign policy action for an agency of the United States Government to go to a foreign country and say: "We must inspect your facilities, we must inspect your system, before we will grant an export license." The NRC staff are not foreign policy experts. Congress should make explicit what our role is intended to be and then make the necessary organizational and staffing arrangements to carry that out.

Another particularly weak area is the guidance to the NRC on reprocessing cases. Here the NRC is asked to advise on, for example, whether or not fuel should be allowed to be shipped from Japan to Europe to be reprocessed or stored for reprocessing, or whether or not fuel from Sweden can be sent to England or to France to be reprocessed. These foreign policy questions deal with major Allies of the United States. They should be dealt with in the overall framework of U.S. foreign policy. It is extremely difficult to know either what the NNPA requires of the NRC in this area or what is the Government's policy on reprocessing. My views were recently expressed in an NRC letter to the Executive Branch:



" . . . the appropriate scope for NRC consultation is unclear since the NNPA does not address this question . . . . One possible approach is for the NRC to evaluate whether the proposed action meets stated criteria and objectives. Along these lines the retransfers appear to meet the applicable Section 127 criteria. Beyond that, it is not clear what specific standards are to be applied. The Act provides the rather vague requirements that the reprocessing 'will not result in a significant increase of the risk of proliferation,' and the State Department and DOE apparently will conclude for each of these proposals 'that major U.S. nonproliferation objectives would best be fostered by approving these particular proposed retransfer requests at this time' . . . . Thus, the Act does not provide much guidance, and at this stage, with a growing number of reprocessing retransfer proposals--all of which appear to the State Department and DOE to advance U.S. non-proliferation objectives -- [I am] becoming puzzled about how this vague guidance is being implemented. It is not apparent whether it is more consistent with U. S. objectives to support or oppose reprocessing."

Earlier in this talk, I asked how many of you were experts on nuclear weapons. I asked the same questions of the Commissioners. None had either designed weapons nor seen an explosion, and only one of us felt confident in being able to design a weapon. I previously commented that you probably cannot say what will help or hurt non-proliferation. Neither can the NRC. We do not have the staff, we do not have the background, and we do not have the charter.

This is fairly well known in Washington. As an example, earlier this year you probably read about two AEC documents found in the unclassified stacks at the Los Alamos library. These documents included weapons design information and really should have been classified. Knowing what kind of weapons design information has been readily available might be useful in trying to understand what are and are not the dangers of proliferation. Consequently, in June I asked one of my assistants to ask the Department of Energy whether I could examine those two documents. The response that we received was that DOE felt the documents would not be of any assistance. DOE pointed out the documents contain classified information in nuclear weapons design, the DOE had been severely censured for improperly marking the reports as unclassified, the error had been corrected, but they are taking a fresh look at the dissemination of all of their weapon related documents. Consequently, they wrote: "In fulfilling our obligations regarding the determination of a need-to-know for information contained in these documents, we must, respectfully, deny your request."

I thought, perhaps I should try again, because, after all, if the NRC is the guardian of U.S. non-proliferation policy, then it might be necessary for the Commissioners to understand what kind of information has been publicly available on designing weapons. Therefore I wrote to Major General Bratton, Director of the Office of Military Applications in DOE. I mentioned that the NRC also was considering what revisions would be appropriate for our regulations which address the threshold for physical protection requirements. These supposedly are set to prevent distribution of enough material to make nuclear weapons. General Bratton, however, was very clear that this was not the NRC's business. He replied: "It is our view that these documents contain no material directly related to the areas of responsibility of the Nuclear Regulatory Commission . . . ." At least for the guardians of our nuclear weapons business, there is no doubt that the NRC does not have a need-to-know about nuclear weapons. I cannot fault DOE for reaching that conclusion. I only question the Congressional conclusions in the NN/A.

In considering what role the NRC should play in international affairs, one should understand the strengths and weaknesses of the NRC. I have mentioned some of the weaknesses. The strengths are in the technical knowledge and regulatory skills of the staff. But we are a regulatory agency. Our staff approach is to make conservative judgments using extensive, detailed information.

There is a possible role for the NRC in nuclear exports, although several speakers yesterday opposed the idea. I am not necessarily advocating the idea, but only raising the question. Although not directly related to proliferation issues, a question regarding nuclear commerce is what kind of health and safety criteria, if any, should be applied for nuclear exports? For example, should the NRC apply the same standards in licensing the export of a nuclear reactor as they would in granting a construction permit for a reactor in the United States? If we do apply our criteria, then I believe we must have our level of involvement -- that is, extensive review of the site and the possible veto over that site on health and safety grounds. It should be no surprise to you that Three Mile Island has suggested to many in the Nuclear Regulatory Commission that we should apply more strict review standards for the export of nuclear reactors, particularly to the Less Developed Countries.

I would like to point out how much time we actually are devoting to international matters. It is difficult to assess how Commissioners spend their time. How we spend our time will depend in many cases on what are the current high priority issues. For example, over the last several months most of our time has been spent on Three Mile Island related events. However, in the year preceding passage of the Non-Proliferation Act we received 911 official papers for the Commission to handle. Of these, 27% were related to international matters, including 14% related to exports. In the year following the passage of the Non-Proliferation Act (which year ended prior to Three Mile Island, so these

numbers are not affected by the accident) we received 962 papers. Of the total, 38% were international, including 23% related to exports. Our international papers went from 27% of the total to 38%. Information papers are a measure of the amount of time that we should spend to keep abreast of staff activity. In the year following passage of the NNPA, the international information papers nearly tripled, from 80 to 231. In addition, in both years over one quarter of all Commission action papers -- these are ones on which the Commissioners must vote -- related to exports, and about 40% were on one or another aspect of international matters. I agree with one of yesterday's speakers -- we are devoting a disproportionate time to international matters.

The Executive Branch has a reason for being in the business of making international policy. The Constitution specifies that role for the President, and the President is elected, providing the public a link to the policies at least every four years. In the Congress, there is a link to some of the people every two or every six years. However, regulatory commissions have only nebulous links, through various laws. Laws are passed by all of the Congress but our strong links are with the Authorization and Appropriation Committees. Currently, these committees have divergent views on many issues, and are not necessarily representative of Congress as a whole.

U. S. policy development is fragmented. In the Congress, some people are definitely pro-nuclear, and want to accelerate the licensing process. They believe the United States must go forward more rapidly with the development of nuclear power. Some people are very strongly against proliferation of nuclear weapons, believe proliferation risks are great, and that the risk of proliferation is perhaps the most hazardous risk facing the world. These two groups are not necessarily incompatible. There was an uneasy truce between them in developing the Nuclear Non-Proliferation Act, which truce came apart and they are now back to their natural state of war on the Clinch River Breeder Reactor issue. And others in the Congress are anti-nuclear. In the Executive Branch, the Council on Environmental Quality is trying to move the world away from nuclear power, while the Department of Energy is trying to market enrichment services around the world and, under Congressional pressure, is providing about one half billion dollars per year for breeder reactor development. The Arms Control and Disarmament Agency argues heatedly against the sale of some items of technology while the Commerce Department, albeit inadvertently, allows the export of inverters to assist Pakistan in its nuclear weapons program. The State Department focuses primarily on today's problems -- they will worry about tomorrow when it comes, if it does. And the NRC is a multi-schizophrenic organization. Some are sure it belongs in nuclear exports. Some are sure it doesn't belong. And some are interested in making foreign policy unencumbered by accountability.

To summarize, I believe many people involved in the non-proliferation debate do not understand what helps or hinders proliferation; I believe U. S. nuclear foreign policy is unclear; I believe the Congress has not been clear on the role intended for the NRC in the international nuclear area; and I am fairly certain the NRC is currently not equipped to handle some interpretations of its role.

I suspect the emperor has no clothes.

Can we manufacture some? I worked for a number of years on nuclear weapons effects and for more years on military planning. Proliferation of nuclear weapons is a plague -- it remains dormant only with great coordinated effort. I don't know if we can succeed, but we must try.

A strong non-proliferation policy must convince as many nations as possible -- particularly, all those capable of supplying either materials or technology -- that, as the Irish patriot John Curran said: "The condition . . . is eternal vigilance."

You people have a special role in this effort. Most of you are strong supporters of nuclear energy. But I suspect you have developed a set of attitudes similar to that which infected much of the nuclear community before TMI.

Before TMI much of the community believed accidents can't happen. This attitude was abruptly -- and, hopefully, permanently -- shaken by the accident. Before TMI much of the community spent a lot of time arguing that critics of nuclear safety were wrong -- were uninformed, anti-nuclear, and worse. I believe much of that effort will turn to improving the safety of current plants. If the experts -- both in the industry and the regulatory agency -- had devoted those energies to improving safety, perhaps TMI would not have occurred.

Similarly, in the area of nuclear proliferation, the experts have devoted a lot of energy to ridiculing many in the non-proliferation movement for their lack of understanding of nuclear weapons, of reprocessing and enrichment technologies, and of power reactors. Those in favor of nuclear power have mobilized to push breeder reactors and to essentially argue that proliferation won't happen. Let us not wait for another country to explode a device and then threaten a neighbor before the experts conclude proliferation is a danger.

The emperor has no clothes. We are some of the tailors -- and we should be sewing.