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A Comparison of GAO and Executive Branch Positions; U.S. Nuclear Non-Proliferation Policy. ID-77-7. January 6, 1977. 2 pp. + enclosure (9 pp.).

Report to the House Committee on International Relations; Joint Committee on Atomic Energy; the Senate Committee on Foreign Relations; the Senate Committee on Government Operations; by Elmer B. Staats, Comptroller General.

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A comparison was made of an Administration policy statement on nuclear proliferation with a GAO Report "Assessment of U.S. and International Controls over the Peaceful Uses of Nuclear Energy," ID-76-60. There was general agreement on the need for more effective controls to curb nuclear weapons proliferation, but the executive branch response did not indicate plans for action on specific GAO recommendations. Recommendations in the GAO report were designed to strengthen U.S. agreements for cooperation, upgrade nuclear safeguards, control exports, and guide future U.S. strategy.

Findings/Conclusions: Although the Administration statement took a positive approach by directing negotiations that would bring existing agreements into conformity with international and new U.S. criteria, the statement was not specific enough. The Administration supported recommendations for upgrading safeguards, but disagreed with the need for some of the procedures for inspection evaluation and monitoring. The Administration agreed with the need for export controls, but legislation to this effect was not enacted. Recommendations: Agreements for nuclear cooperation should stress adherence to the Non-Proliferation Treaty and submission to full fuel cycle safeguards. U.S. nuclear export policy should be more clearly defined. (HTW)

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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

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To the Chairmen of the
Senate Committee on Government Operations
Senate Committee on Foreign Relations
House Committee on International Relations
Joint Committee on Atomic Energy

The strengthening of U.S. and international controls over the peaceful uses of nuclear energy will be one of the most important issues considered in the 95th Congress. As you know, both the Administration and the General Accounting Office have recently issued their assessments of the problems involved in controlling the worldwide spread of nuclear weapons and each has proposed corrective actions.

To assist your Committee in its deliberations on legislation to advance U.S. non-proliferation objectives, we have prepared the enclosed comparison of the Administration's recent nuclear energy policy statement, as it relates to proliferation, with our report (Assessment of U.S. and International Controls Over the Peaceful Uses of Nuclear Energy ID-76-60), dated September 14, 1976.

There is general agreement that more effective controls to curb nuclear weapons proliferation must be sought. The Administration's statement discusses, on a policy level, the areas of major concern addressed in our report. However, our analysis of the executive branch response to specific recommendations in our report indicates that the executive branch does not plan to take some of the specific corrective actions we considered necessary to further promote U.S. non-proliferation objectives.

Our recommendations were designed to:

- Strengthen U.S. agreements for cooperation.
- Upgrade international nuclear safeguards.
- Give greater assurances to the world at large that such safeguards are effectively implemented.
- Establish a focal point within the U.S. Government to control the export of nuclear materials, equipment, and technology.

- Identify key issues that should be included in the U.S. proposed international convention on physical security.
- Guide future U.S. strategy to achieve nuclear non-proliferation goals.

We trust that this information furnished at the outset of the 95th Congress will be helpful in your deliberations. We are continuing our work on nuclear proliferation and expect to provide the Congress with additional timely observations and proposals on domestic and international nuclear energy and proliferation issues.

This comparison is also being sent to the pertinent executive branch agencies.



Comptroller General
of the United States

Enclosure

COMPARISON OF
 CONCLUSIONS AND RECOMMENDATIONS IN GAO REPORT
 "ASSESSMENT OF U.S. AND INTERNATIONAL CONTROLS OVER
 THE PEACEFUL USES OF NUCLEAR ENERGY" (ID-76-60)
 WITH THE
 ADMINISTRATION'S NUCLEAR NON-PROLIFERATION POLICY STATEMENT

AGREEMENTS FOR NUCLEAR COOPERATION

The United States currently has agreements for cooperation in the peaceful uses of nuclear energy with 28 individual nations, the International Atomic Energy Agency (IAEA), and the European Atomic Energy Community (EURATOM). The proposed U.S. agreements for nuclear cooperation with Egypt, Israel and Iran have spurred an intense scrutiny of all U.S. agreements. Because these agreements provide the framework for U.S. assistance and represent the non-proliferation intentions of the parties, their specific terms and conditions are of the utmost importance.

Over the years, the executive branch has identified weaknesses in the agreement provisions and has taken corrective actions. At the time of our review, the executive branch was considering several new control provisions which would:

- Expressly prohibit the use of U.S.-supplied material or equipment for peaceful nuclear explosives.
- Require the recipient to implement physical security arrangements deemed adequate by the United States.
- Require U.S. approval of fabrication and storage facilities for highly enriched uranium and plutonium.
- Require any replication of U.S.-supplied technology within the recipient country to be placed under effective safeguards.

Because the Administration was considering these modifications for future agreements, we recommended that existing agreements be renegotiated, where possible, to conform them to a stronger, more uniform U.S. non-proliferation policy. We also identified three other issues relating to the agreements which should be clarified:

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1. Residual U.S. safeguards rights when large amounts of nuclear material and equipment are exported through international organizations;
2. When the U.S. could or would reinstate its own safeguards, previously suspended in favor of IAEA safeguards; and
3. Whether U.S. safeguards rights extend beyond the expiration dates of existing agreements for cooperation.

We are pleased to note that the Administration's nuclear policy statement of October 28, 1976, directs the Secretary of State to enter into negotiations to conform existing agreements for cooperation with established international guidelines and with the Administration's new criteria. However, the statement did not specify the new provisions to be incorporated. We continue to believe that agreements for cooperation should clearly address the three U.S. safeguards issues identified above.

INTERNATIONAL NUCLEAR SAFEGUARDS

The term "safeguards" within the international context refers to a system of inspection and verification which, when applied to one country's nuclear activities, will provide assurance to other countries that nuclear material is not being diverted for non-peaceful purposes. The IAEA safeguards are designed only to detect diversions of nuclear material on a national level, and it is assumed that member nations will protect such material from terrorist or subnational groups. The principle of such safeguards is that the risk of early detection and unmasking in the world community will deter a would-be diverter.

Our report points out some inherent limits and constraints on international safeguards as they are currently applied and discusses five general areas that need attention in order to strengthen the system: (1) material accountability, (2) technical limits on accuracy of instrumentation, (3) financing, (4) political attitudes, and (5) availability of qualified inspectors. We recommended that the Administration urge the IAEA to:

- Reemphasize that individual material accountability systems should easily interface with the IAEA system.

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- Conduct a thorough analysis of its future financing needs.
- Seek strict compliance, and uniformly enforce, safeguards implementing procedures.
- Implement, as soon as practical, its plan for an independent safeguards training program for IAEA inspectors.
- Establish standards for the number of inspectors needed to meet IAEA needs and have each country accredit enough inspectors to meet these standards.

The Administration's nuclear policy statement recognizes that the IAEA inspection system remains a key element in the U.S. non-proliferation strategy and that the United States must further strengthen IAEA safeguards functions. In this regard, the Secretary of State and Administrator of the Energy Research and Development Administration (ERDA) were directed to undertake a major international effort to upgrade IAEA safeguards functions and capabilities by ensuring that adequate resources are made available and that the best U.S. scientific talent supports the IAEA.

The Department of State believes that our report takes an overly pessimistic view of the effectiveness of IAEA safeguards inspections. Nevertheless, both State and ERDA support the specific recommendations in this part of our report. 1/

U.S. RELIANCE ON INTERNATIONAL SAFEGUARDS

The United States has been promoting the concept of international safeguards throughout the world and has accepted IAEA and EURATOM safeguards standards as satisfying U.S. requirements. Therefore, it is important that the United States and other nations receive sufficient assurance that these safeguards are adequately, fairly, and consistently applied.

1/Under provisions of Section 236 of the Legislative Reorganization Act of 1970, agencies are required to submit statements to the House and Senate Appropriations and Government Operations Committees advising them of actions taken on GAO recommendations.

We recommended several ways to obtain greater assurances that IAEA and EURATOM safeguards are effectively implemented. In responding to the specific recommendations in our report, agency officials generally agreed with us that the (1) IAEA should lift, to the fullest extent possible, its restrictions against disclosing information on safeguards effectiveness to member nations, (2) United States should obtain access, with the consent of the inspected nations, to IAEA inspection reports for U.S.-supplied material and equipment, and (3) United States should evaluate the effectiveness of IAEA safeguards inspections in the United States. Recent U.S. efforts to obtain greater assurance of IAEA safeguards effectiveness are encouraging.

With regard to our recommendation concerning confidence in the EURATOM safeguard system, executive branch officials said that they opposed reconstituting the Joint U.S.-EURATOM Technical Working Group. However, they hoped to intensify consultations with EURATOM to verify the effectiveness of safeguards on U.S.-supplied material and equipment.

Agency officials disagree with our recommendations on the need for (1) onsite evaluations of IAEA safeguards inspections by the IAEA Standing Advisory Group on Safeguards Implementation, (2) an IAEA annual report showing the amount of nuclear materials subject to safeguards and any discrepancies, and (3) periodic onsite monitoring of IAEA inspections by representatives of supplier nations. It was indicated that our recommendations would not be acceptable to IAEA member nations unless strong initiatives were undertaken by the United States and other influential members. We believe that the United States can and should provide the strong leadership necessary to gain acceptance of these recommendations.

The United States, in order to maintain a high level of credibility and leadership in the international safeguards arena, must be sure that its own safeguards system is sound. However, our July 22, 1976, classified report "Shortcomings in the Systems Used to Control and Protect Highly Dangerous Nuclear Material" (EMD-76-3), points out limitations in the U.S. systems for safeguarding special nuclear materials. We recommended that ERDA:

- Update and clarify accountability and material control and physical security requirements.
- Further emphasize to Congress the need for additional funds to correct physical security deficiencies in U.S. systems.

We are now reviewing the extent to which ERDA has taken corrective actions on our recommendations.

SANCTIONS AGAINST PROLIFERATION

No system of proliferation controls is likely to be effective if a potential violator believes the international community will be indifferent to a violation. We recommended that the United States urge IAEA member nations to establish adequate sanctions against countries that divert nuclear material to fabricate explosive devices or that knowingly supply material or technology to another country for developing nuclear explosives. In line with our recommendation, the Administration has invited "all concerned governments to affirm publicly that they will regard nuclear wrongdoing as an intolerable violation of acceptable norms of international behavior, which would set in motion strong and immediate countermeasures." The policy statement says that the United States will, at a minimum, respond to serious violation of any of its safeguards agreements by immediately cutting off nuclear fuel supplies and cooperation. The statement is particularly adamant about the diversion of nuclear material to make explosives. Moreover, the United States will consider further steps (not necessarily confined to the area of nuclear cooperation) against a violator nation and not confine its actions just to violations of agreements in which it is directly involved.

We fully support this strong affirmation of the seriousness with which the United States should face the abrogation or violation of nuclear non-proliferation agreements.

U.S. NUCLEAR EXPORT AND RETRANSFER CONTROLS

Although IAEA and EURATOM safeguards provide the primary control over U.S. nuclear material and equipment supplied to foreign countries, various U.S. agencies must still ensure that such exports will not be detrimental to U.S. common defense and security. From our review, we concluded that the agencies involved should more fully coordinate control over peaceful nuclear exports

and that the Nuclear Regulatory Commission (NRC) should become the focal point for such coordination.

Executive branch officials state that effective cooperation already exists but that the Administration stands ready to work with the Congress in any effort to help further clarify the respective agency roles.

GAO also recommended that NRC, ERDA, the Department of State, and the Arms Control and Disarmament Agency jointly establish criteria for the quantities and types of nuclear materials and equipment that may be transferred under government-to-government arrangements without the complete licensing review process. Although the Administration's nuclear policy statement did not specifically address this matter, the executive branch did support export legislation in the 94th Congress that would limit ERDA's government-to-government transfers of special nuclear materials to small quantities. However, this export control legislation was not enacted and should be taken up in the new session.

PHYSICAL SECURITY OF NUCLEAR MATERIAL

Physical security encompasses measures to deter, prevent, and promptly detect the theft, sabotage, or other unauthorized use of nuclear material and equipment by subnational groups. The IAEA currently has no authority to require member countries to establish acceptable physical security systems nor can it supervise, control, or implement such systems. Nevertheless, since stolen nuclear material may be used anywhere, effective worldwide physical security should be a concern of all nations.

The United States and other suppliers are now requiring that recipients of sensitive nuclear materials and equipment meet stringent physical security standards and are reviewing the adequacy of the physical security systems of such recipients. In the long-term, however, continued reviews of one country's security by another may be unacceptable. Countries may find it more politically and economically feasible to have IAEA assume this responsibility. We concluded that the United States should continue to pursue its proposal for an international physical security convention, and recommended that it include (1) acceptance of common physical security standards, (2) assurance that each member would implement these standards, (3) guarantees that no member nation

would provide safe haven for nuclear terrorist or saboteurs, and (4) physical security reviews as part of IAEA safeguards inspections.

The Administration's nuclear policy statement recognizes the need to improve physical security measures against theft, sabotage, or other unauthorized use of nuclear material and equipment. To this end, the Secretary of State was directed to address the problem of physical security at both bilateral and multilateral levels, including exploration of a possible international convention.

FUTURE U.S. STRATEGY AND OPTIONS

The United States, as the world's leading nuclear exporter, has a particular responsibility to ensure that its policies are designed to deter other nations from developing nuclear explosives. Clearly, U.S. policy must strike a balance between two extremes--overzealous pursuit of foreign nuclear sales without regard to proliferation and withdrawal from the international nuclear market.

Continued leadership in nuclear sales, with the strongest practical precautions, will give the United States the best opportunity to influence the international nuclear market. However, as the number of supplier countries grows, multilateral efforts will be increasingly necessary.

The United States, recognizing the need for multilateral cooperation, has been working with other nuclear suppliers to prevent one supplier from offering less stringent safeguards than another in order to promote nuclear sales. We recommended that the Department of State, the Arms Control and Disarmament Agency, and the Energy Research and Development Administration, with the advice of the Nuclear Regulatory Commission, develop and implement a diplomatic and technical strategy to:

- Achieve continued dialog and conclude further, more binding arrangements on common export policies, particularly for sensitive technologies.
- Reestablish the United States as a reliable supplier of uranium enrichment services and discourage individual foreign countries from developing their own enrichment capacities.

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- Assist developing countries to evaluate their total energy needs in determining whether and how much of their energy requirements should be filled by nuclear energy.
- Establish adherence to the Non-Proliferation Treaty, or at least a guarantee by the recipient country to subject its entire peaceful nuclear program to international safeguards, as a general prerequisite for future U.S. nuclear cooperation and promote this policy as a standard for cooperation by all supplier countries.

In substantive accord with our recommendations, the Administration's recent nuclear policy statement provides for the executive branch to:

- Submit legislation permitting the United States to expand enrichment capacity to make it a reliable long-term nuclear fuel supplier to countries which agree to accept responsible restraints over sensitive nuclear technologies and spent reactor fuels.
- Intensify discussions with other nuclear suppliers to expand common guidelines for peaceful cooperative agreements to include providing fuel services rather than sensitive technologies and to agree to at least a 3-year moratorium on the transfer of enrichment and reprocessing facilities or technology.
- Expand cooperative efforts with other countries in developing their non-nuclear energy resources by establishing an International Energy Institute to help developing nations match the most economic and readily available sources of energy, including non-nuclear sources, to their power needs.

The executive branch has apparently revised its position on adherence to the Non-Proliferation Treaty. The State Department position had been that strong U.S. insistence on adherence was an overly severe requirement which could result in a breakdown of supplier cooperation. The State Department indicated that the United States should espouse this requirement only if other suppliers would also agree to these terms. However, the Administration's recent nuclear policy statement indicated that new criteria will be used in determining whether to enter into

new or expanded nuclear cooperation and that either Treaty adherence or submission to full fuel cycle safeguards will be strong positive factors favoring cooperation. It is implied that these new criteria will be unilaterally followed by the United States. We believe that such action would be a major step toward achieving desired non-proliferation objectives; however, U.S. nuclear export policy should be more clearly defined. Future nuclear cooperation should require either adherence to the Non-Proliferation Treaty or full fuel cycle safeguards.

The Administration's October 28, 1976, policy statement disclosed that U.S. commercial reprocessing of nuclear fuel and plutonium recycle will not be allowed to proceed "unless there is sound reason to conclude that the world community can overcome effectively the associated risks of proliferation." This statement is directly pertinent to U.S. efforts to develop a commercial liquid metal fast breeder reactor (LMFBR). Our November 29, 1976 report "Considerations of Commercializing the Liquid Metal Fast Breeder Reactor" (EMD-77-5) concluded that the Administration's policy statement creates doubts about the viability of the LMFBR as a future energy source since a nuclear fuel reprocessing industry is an indispensable prerequisite to the commercial operation of the LMFBR.