



CHAIRMAN

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

June 21, 1991

PDC

The Honorable John Conyers, Jr., Chairman
Committee on Government Operations
United States House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

In accordance with the statutory obligation to respond to recommendations by the General Accounting Office (GAO) within 60 days of receipt, I am providing the Nuclear Regulatory Commission's (NRC's) response to the recommendations by GAO in its March 1991 report, "Nuclear Nonproliferation: Controls Over the Commercial Sale and Export of Tritium Can Be Improved."

We note that GAO concluded that the tritium incidents at Oak Ridge National Laboratory were not caused by weaknesses in the NRC's licensing procedures. However, GAO expressed the belief that setting a maximum limit on shipment size and obtaining written agreements for tritium retransfers might provide added assurance against the possible consequences of theft and the possibility of diversion. Accordingly, it was recommended that the Chairman, NRC:

- ° Analyze the advantages and disadvantages of establishing a limit on the size of individual shipments that are allowed under tritium licenses, particularly as they relate to ensuring that the amount sent in a single shipment cannot be used as a booster in a nuclear weapons device if stolen or otherwise diverted.
- ° Pursue, with the aid of the Department of State, obtaining written agreements from recipient countries for notification/approval of retransfer of exported U.S. tritium.

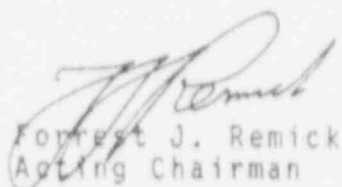
For the reasons discussed in the enclosed response to the GAO recommendations, we disagree with the first recommendation and agree with the second one. NRC continues to believe that domestic and international controls on tritium are adequate considering the fact that tritium alone cannot be used to make a nuclear device. We do not believe there is a need to establish a linkage between shipment size and the amount required to boost a single nuclear device.

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We agree with the second recommendation to pursue written agreements from recipient countries for notification/approval of bulk retransfers of exported U.S. tritium. We have already initiated discussions with the Department of State to ascertain the desirability and feasibility of obtaining all assurances in writing. It is important to emphasize that substantial restraint already has been exercised in connection with transfers of bulk tritium. We have been approving bulk tritium exports only to well-known recipients in countries that are Non-Proliferation Treaty adherents with strong non-proliferation credentials, e.g., Switzerland, Canada and the United Kingdom. The governments of these countries, in the course of discussions and visits, have given the U.S. oral or, in some cases, written assurances with regard to the prevention of unauthorized retransfers of the U.S.-supplied bulk tritium.

The enclosure provides more detailed descriptions of NRC's position and response activities related to the GAO recommendations.

Sincerely,



Forrest J. Remick
Acting Chairman

Enclosure:
Response to GAO Recommendations

cc: Representative Frank Horton

NRC Response to GAO Recommendations in
"Nuclear Proliferation: Controls Over the
Commercial Sale and Export of Tritium Can Be Improved"
(GAO/RCED-91-90)

Recommendation 1

The GAO recommends that the Chairman of the Nuclear Regulatory Commission (NRC):

Analyze the advantages and disadvantages of establishing a limit on the size of individual shipments that are allowed under tritium licenses particularly as they relate to ensuring that the amount sent in a single shipment cannot be used as a booster in a nuclear weapons device if stolen or otherwise diverted.

NRC Response: NRC disagrees with this recommendation because there is no apparent need to establish such a linkage.

Existing domestic and international controls on bulk tritium shipments are adequate considering the fact that tritium alone cannot be used to make a nuclear device. A potential diverter of the tritium must already have a fission device for any quantity of tritium to be useful in boosting the explosive yield of that device. Even assuming the low probability event of a fission device being developed clandestinely, it is highly improbable that a developer would risk detection by stealing or diverting tritium from a U.S. bulk export, especially in view of tritium's ready availability from legitimate sources such as the Soviet Union. In addition, only sophisticated weapons designers have the capability to use the tritium as a booster in a nuclear device.

In addition to the factors referenced above, establishment of the linkage would depend on a de minimis quantity of tritium below which no boosting benefit would be derived. It is unclear to us whether such a quantity could be established. Weapons experts at the Department of Energy are the experts on this subject.

Therefore, NRC has not initiated an analysis of the advantages and disadvantages of establishing such a linkage.

Enclosure

Recommendation 2

The GAO recommends that the Chairman of the NRC:

Pursue, with aid of the Department of State (DOS), obtaining written agreements with recipient countries for notification/approval of retransfer of exported U.S. tritium.

NRC Response: We agree with this recommendation to the extent that agreements would be obtained only for retransfers of bulk tritium. NRC tritium export licenses currently include conditions that stipulate that bulk tritium is not to be retransferred without prior U.S. approval and that commercial products for reexport, such as sealed light sources, etc., should not contain in excess of 40 curies per device. Although it is recognized that these conditions have no legal status in the recipient countries, they communicate the U.S. position on retransfers. If these conditions are violated, the U.S. would have the option to terminate tritium exports to the offending country. We do not anticipate retransfers in violation of the conditions since bulk tritium exports are approved only to well-known recipients in countries that are Non-Proliferation Treaty adherents with strong non-proliferation credentials. Over the many years of U.S. exports of bulk tritium, we are not aware of any cases of retransfers to which the U.S. would have objected.

In the course of discussions and visits, country authorities have given U.S. Government representatives oral assurances regarding prevention of unauthorized retransfers of U.S.-supplied bulk tritium. In some instances, written assurances have been provided as well. NRC agrees that it would be preferable if all such assurances were in writing. We have initiated discussions with the DOS to ascertain the desirability and feasibility of obtaining written agreements that would contain requirements for notification and approval of the U.S. prior to any retransfer of bulk tritium. It is important to note that the agreements would only be concerned with retransfers of bulk tritium and not the multitude of small amounts of tritium contained in commercial products such as exit signs because of the complexity and huge burden associated with attempting to control the large numbers of products in comparison to the minimal benefits associated with such controls.

In our initial discussions with DOS, there have been some indications that there may be other factors which may influence a decision to pursue written agreements. For example, such agreements could ultimately result in decreased control of international commerce in tritium in the event the recipient countries elected to procure tritium from other countries with lesser requirements. NRC will defer to DOS on this matter since DOS has a broader international perspective as well as lead responsibility for entering into written agreements with foreign countries.