

## **POLICY ISSUE INFORMATION**

September 4, 2001

SECY-01-0169

**FOR:** The Commissioners

**FROM:** Janice Dunn Lee, Director  
Office of International Programs

**SUBJECT:** IAEA-PROPOSED "INTERNATIONAL LEGAL INSTRUMENT" ON RESEARCH  
REACTOR SAFETY

### **PURPOSE:**

The purpose of this paper is to inform the Commission of the results of a working group meeting at the IAEA where discussions were held among representatives of seven countries and the IAEA, to address options to improve the safety of research reactors throughout the world. The meeting was held during the period from May 21-25, 2001. The document "Report of the Working Group on International Nuclear Safety Arrangements for Civil Research Reactors," is included as Attachment 1.

### **BACKGROUND:**

In SECY-01-0063, "IAEA-PROPOSED 'INTERNATIONAL LEGAL INSTRUMENT' ON RESEARCH REACTOR SAFETY," dated April 13, 2001, the staff informed the Commission of an upcoming working group meeting at the IAEA where discussions would address options to improve the safety of research reactors throughout the world. Specifically, one option expected to be raised was an "international legal instrument" governing research reactor safety. In its paper, the staff stated that absent Commission objection, NRC participants in the meeting would work with the Department of State (DOS) and the Department of Energy (DOE) in advance of the working group meeting to coordinate the U.S. position and approach for the meeting. Upon completion of the IAEA meeting, the staff proposed to report the results of the meeting to the Commission and outline any points requiring further considerations.

In its SRM, dated May 9, 2001, the Commission stated that it did not object to NRC participation in the meeting, and directed the staff to affirm that the U.S.'s regulatory program for research reactors is adequate and that no new burdens should be placed on NRC licensees as a result of concerns about foreign research reactor safety. It also advised the staff to support the identification of paths to strengthen research reactor safety around the world, adding that funding for any effort needs to be an integral consideration in the review.

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**DISCUSSION:**

The working group meeting was held at the IAEA in Vienna during the period from May 21-24, 2001. The meeting was led by Dr. John Loy of Australia, and was attended by representatives from Argentina, China, France, Japan, Russia, and the United States. The United States was represented by Ron Borrows, DOS, Jimmie Mulkey, DOE, John Tappert, NRC and Jim Blaha, Nuclear Safety Attache.

The working group reviewed the information provided by the IAEA regarding problems identified at research reactors, including several examples of problems with aging, lack of effective regulation, and lack of resources. While the IAEA has gathered information made available by the missions, and resulting from agency program activities regarding approximately 50 research reactors, it has no similar information for the balance of the 651 research reactors worldwide. For this reason, the working group recommended that the IAEA consider establishing an assessment survey for member states so that the status of safety of research reactors and their regulatory oversight could be better characterized. Some illustrative example questions were developed by the working group, but it was recommended that a more extended discussion take place before a final survey is developed. The working group also recommended to the IAEA that a non-binding Code of Conduct be prepared to clearly establish the desirable attributes for management of research reactor safety and that further exploration of the modalities to strengthen the monitoring system draw upon the experience in other fields such as international civil aviation. A copy of the working group report is included as Attachment 1.

The working group did not recommend a convention or other legally binding instrument, but rather an assessment survey. The objectives of the assessment survey would be to characterize the status of research reactors, raise awareness of member states, and identify opportunities to apply IAEA resources to research reactor safety concerns. The working group stated that the survey should not be onerous for member states with large numbers of research reactors. If the IAEA accepts the recommendation to develop an assessment survey, the NRC should participate in its development to ensure that the questions are crafted in a way that allows them to be answered readily by the NRC non-power reactor project managers. This will ensure that there will be no burden on our research reactor licensees and only minimal burden on the NRC staff.

The next step will be to include a discussion of research reactor safety and the working group report during the September Topical Issues Forum at the IAEA in Vienna. The IAEA will then report on the recommendations of the working group and the results of the discussions held during the Forum, during the IAEA General Conference in September. It is expected that a member country (possibly Australia) will propose a General Conference Resolution directing the IAEA to implement the report recommendations.

**SUMMARY:**

The following four recommendations were made.

1. **Develop a Non-Binding Code of Conduct**

The Non-Binding Code of Conduct would describe the attributes of a good research reactor safety program. There was broad consensus that there is not enough information on the full scope of safety problems at research reactors to justify a legally binding convention or other instrument. The Code of Conduct is meant to address the significant safety problems the group agreed need better characterization.

2. **Conduct an Assessment Survey**

The Assessment Survey would enable the IAEA to better characterize the full scope of safety problems at research reactors and solution strategies. Based on the first-hand information provided by the missions and resulting from project activities, it was concluded that there were significant safety problems at 15-20 of these research reactors. IAEA programs are in place to address the problems at many of these reactors. However, the IAEA does not have information concerning many other reactors in developing countries where there is circumstantial evidence of safety problems.

3. **Explore New Strategies**

An exploration of new strategies would be directed toward determining whether the IAEA might assist and perhaps provide some regulatory support for research reactors in developing countries, that would be based on bilateral agreements. This could address, in part, the problem of lack of adequate regulatory infrastructures in some countries.

4. **Develop a Comprehensive Action Plan**

A Comprehensive Action Plan aimed toward improving the safety of research reactors could include the above elements as well as new strategies which may be identified as a result of review of the survey results.

**COORDINATION:**

The Office of the General Counsel has reviewed this paper and has no legal objection.

**CONCLUSIONS:**

The staff believes that the results of the May 21-24, 2001, working group meeting on research reactor safety are consistent with Commission guidance.

***/RA by R. Hauber for/***

Janice Dunn Lee, Director  
Office of International Programs

Attachment: IAEA Report of the Working Group on International Nuclear Safety Arrangements  
for Civil Research Reactors

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