

## **POLICY ISSUE INFORMATION**

March 23, 2001

SECY-01-0051

FOR: The Commissioners

FROM: William D. Travers  
Executive Director for Operations

SUBJECT: STATUS REPORT ON INTERAGENCY JURISDICTIONAL WORKING GROUP  
EVALUATING THE REGULATION OF LOW CONCENTRATIONS OF  
URANIUM AND THORIUM

PURPOSE:

To provide the Commission with the status of the 10 CFR Part 40 Interagency Jurisdictional Working Group.

BACKGROUND:

Section 40.13(a) of 10 CFR Part 40 exempts any person who receives, possesses, uses, transfers, or delivers source material in any chemical mixture, compound, solution, or alloy in which the source material is by weight less than 0.05 percent of the mixture, compound, solution, or alloy from the regulations in 10 CFR Part 40 and from the requirements for a license set forth in section 62 of the Atomic Energy Act (Act) of 1954. This exemption involves complex issues related to the history of Part 40. The origin of the definition of source material in the Act relates to its significance as a source for the production of special nuclear material. The original definition of source material in Part 40 (1947) excluded all forms of uranium and thorium below this concentration limit, i.e. 0.05 per cent by weight. In 1961, the definition was revised to its present form to be consistent with the definition in the 1954 Act. Since that time, only ore below the 0.05 percent by weight concentration has been excluded from the definition of source material.

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At that time, the exemption under 10 CFR 40.13(a) was added to the regulations. The concentration appears to have been chosen on the basis of the concentrations of source material necessary to be a useful source of fissionable material. The Commission has since determined that wastes containing unimportant quantities of source material, as specified in § 40.13(a), derived from U.S. Nuclear Regulatory Commission (NRC) licensed operations could be transferred (including for disposal) with NRC staff preapproval, pending completion and approval of a proposed rule that is currently before the Commission (SECY-00-0201).

Based on conservative exposure scenarios and model assumptions, there is some evidence that estimates of possible doses from uranium and thorium suggest that the exempt concentration limit of 0.05 percent (500 parts per million) may not be adequately protective of public health and safety and the environment. However, lowering the concentration limit could lead NRC to become involved with the regulation of many activities unrelated to the nuclear fuel cycle, such as almost all mineral processing. Such regulation was not envisioned in the 1946 and 1954 Acts. Additionally, many materials containing uranium and thorium also contain radium, which the NRC does not regulate, in concentrations that pose health and safety impacts that are more significant than those from the uranium and thorium.

The staff submitted SECY-99-259, "Exemption in 10 CFR Part 40 for Materials Less Than 0.05 Percent Source Material - Options and Other Issues Concerning the Control of Source Material" to the Commission in November 1999. The paper provides an extensive discussion of these issues. The Commission issued a Staff Requirements Memorandum (SRM) dated March 9, 2000, in response to SECY-99-259. In this SRM, the Commission directed the staff to initiate interactions and work with the U.S. Environmental Protection Agency (EPA), the Occupational Safety and Health Agency (OSHA), and the States to explore the best approach to delineate the responsibilities of the NRC and these agencies with regard to low-level source material (as defined in 10 CFR Part 40) or materials containing less than 0.05 percent uranium and/or thorium. The Commission directed the staff to undertake this activity as part of the overall effort to rationally address the risks from naturally occurring radioactive material (NORM), technologically enhanced naturally occurring radioactive material (TENORM), low-level source material, and, specifically, materials containing less than 0.05 percent uranium and/or thorium, while ensuring adequate protection of public health and safety.

#### DISCUSSION:

In response to the SRM dated March 9, 2000, the Jurisdictional Working Group (hereafter referred to as the Working Group) was established. As directed by the Commission, the Working Group includes representatives from the States [representing the Organization of Agreement States (OAS) and the Conference of Radiation Control Program Directors], EPA, and OSHA. Other Federal agencies with responsibilities for similar materials are also members of the Working Group, and include the U.S. Department of Energy (DOE), the Army Corps of Engineers, the U.S. Department of Interior, and the U.S. Department of Transportation. The Working Group has held three meetings to date, which were open to the public, at NRC Headquarters, during which it has begun discussing and evaluating the jurisdictional issues involved with low concentrations of uranium and thorium and their decay products. The Charter for the Working Group is provided in Attachment 1.

The Working Group has identified several steps necessary for developing "best approaches" recommendations for regulatory responsibilities. The Working Group needs to: (a) better

understand the uses and quantities of source material which are being used/processed that would fit into the scope of the Working Group's review; (b) identify concentration ranges and their potential doses; (c) determine where there are any potential issues or risks related to public health and safety regarding public or occupational doses, or environmental impacts; and (d) evaluate current regulatory controls of these materials. The Working Group believes it must also develop criteria for making decisions and recommendations regarding the issues. It has already begun gathering information on the materials that are being used/processed that fall within the scope of its evaluation. Once this is complete, the Working Group will focus on the issues and, in light of current regulatory controls, develop options and recommendations for the future regulation of these materials. As the Working Group progresses in this endeavor, it will consider how the options and recommendations address the Agency's performance goals: (1) maintain safety; (2) increase public confidence; (3) increase effectiveness, efficiency, and realism; and (4) reduce unnecessary regulatory burden.

The Working Group has identified several reports and sources of information that it plans to utilize, including a 1999 report by the National Research Council on its evaluation of guidelines for exposures to TENORM; EPA'S report to Congress, dated June 2000, on the Council's report; and Draft NUREG-1717, "Systematic Radiological Assessment of Exemptions for Source and Byproduct Materials." Additionally, the Working Group has reviewed SECY-99-259 and has begun exploring the issues and options addressed in that paper. Each working group member representing an agency that has regulations which address some use of radiation/radioactive material has also prepared a "citation of authority" (Attachment 2). These citations of authorities were developed for the purpose of discussion and support of the Working Group activities and do not represent Agency-endorsed positions or statements. At this time, the DOE citation is not included. The staff is in the process of contacting DOE for that information. The Working Group has requested that the Mining Safety and Health Administration also provide a citation of authority because of its regulation of mining processes.

Currently, there are several ongoing related activities in which NRC is involved, such as the National Materials Program Task Force; response to SRM, dated December 5, 2000, "COMEXM-00-0002 - Expansion of NRC Statutory Authority over Medical Use of Naturally Occurring and Accelerator-Produced Radioactive Material (NARM)"; and a grant to the National Academy of Sciences for "Improving Practices for Regulating and Managing Low-Activity Radioactive Wastes." The Working Group will remain cognizant of these activities for any impacts or influences on its work, and will interact with the groups responsible for these activities as needed. If the Commission issues directives on other related activities, the Working Group will also consider the impact of such directives as it continues its work.

The Working Group plans to meet again by May 25, 2001. The staff expects that the Working Group will meet in the early stages of this project at least every 2 months. The staff estimates that it will take 9 months to complete steps (a)-(d) listed above. When steps (a)-(d) are complete, the staff expects to provide the Commission with options and recommendations within 6 months. However, this schedule may vary, based on several factors, including the schedules of the representatives of the other Federal agencies and the State representative, and the importance of this project to these organizations and their willingness to continue to support it. Based on OAS and State commitments to the working group process, we believe that the State representative will be able to meet his commitments. The staff will inform the Commission if there appears to be any delay in the proposed schedule.

RESOURCES:

The staff estimates that the work for this project will take approximately 1.5 FTE each year for FY 2001 and for FY 2002. These resources are included in the current FY 2001 and FY 2002 budgets. This estimate is for NRC staff time only, and does not include the resources for the other Federal representatives on the Working Group. The other Federal representatives fund their own time and travel using their own resources. The staff estimates approximately 0.2 FTE for the State representative participation. The travel for the State representative is funded by NRC, and is already included within the FY 2001 and FY 2002 budgets.

COORDINATION:

The Office of the General Counsel has no legal objections to the paper. The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections.

**/RA/**

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- Attachments: 1. Charter  
2. Citations of Authority

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