



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 19, 1998

Dr. B. John Garrick, Chairman
Advisory Committee on Nuclear Waste
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Dr. Garrick:

Chairman Jackson has requested that the Advisory Committee on Nuclear Waste (ACNW) provide comments on the draft paper on risk-informed, performance-based regulation. I believe that the paper goes far toward satisfying an important need – i.e., establishing a common understanding of the terms and concepts that will be involved in implementing the Nuclear Regulatory Commission's (NRC) Probabilistic Risk Assessment (PRA) Policy Statement, dated August 16, 1995. It does so, in part, by building on the similar regulatory concepts that are found in the reactor and materials areas. Certainly, it is these similarities that must form the basis of any agency-wide approach to implementing the policy statement.

However, it is essential that some important differences not be forgotten either. Specifically, the paper has been influenced strongly by PRA, its current and potential application in reactor regulation, and NRC's need to understand and address the possible ramifications of those applications, both good and bad. Clearly, this body of thought and experience can help the Office of Nuclear Material Safety and Safeguards (NMSS) to avoid some false starts and dead ends as it expands its use of risk-informed and performance-based approaches. However, before the concepts that are expressed in the paper are broadly applied to the regulation of nuclear materials and radioactive waste disposal, it would be beneficial for the ACNW to consider the implications of those concepts in the context of the following considerations:

1. PRA is an ideal tool for studying the risk associated with complex systems that include many interactive subsystems. Most materials applications do not involve such systems. They tend to be simple, they do not have multiple barriers, defense-in-depth is minimal, and their failures tend to result from human failures.
2. There are enough event data that actuarial analyses may be possible for some materials applications.
3. The licensee communities associated with some, but not all, materials applications lack the technical sophistication to function safely in a performance-based regulatory regime.
4. Low-level radioactive waste disposal and many material applications are regulated by Agreement States.
5. NMSS already has had successful experience with performance-based approaches in some areas – notably, implementation of the radiation protection standards of 10 CFR Part 20 and the waste disposal performance objectives of 10 CFR Parts 60 and 61.

9803230248 980319
PDR ADVCM NACNUCLE
PDR

930039

NRC FILE CENTER COPY

98-60

1/0
NTH
WM-2
414

March 19, 1998

B. John Garrick

2

- 6. NMSS is in the process of preparing, for Commission consideration, a proposed rule that would require each fuel fabrication and enrichment facility licensed under 10 CFR Part 70 to perform an integrated safety analysis (ISA). An ISA is a structured non-quantitative analysis of radiological hazards, as well as non-radiological hazards involved in processing of licensed special nuclear material.
- 7. There is no "safety goal" for materials uses that can serve as a guide to risk-informed decisionmaking, and it is questionable whether one could be developed. The relative benefits of materials uses and the costs of risk-reduction vary widely. Moreover, in managing the risk associated with materials uses, public perception is often a primary driver. In consequence, currently permissible risk levels vary and stem from several conflicting statutes and other standard-setting sources.

I would be pleased to elaborate on these points if the ACNW would find that helpful.

Sincerely,

Original signed by
Carl J. Paperiello

Carl J. Paperiello, Director
Office of Nuclear Material Safety
and Safeguards

cc: Robert Seale

DISTRIBUTION: Central File PUBLIC ACNW NMSS Dir. r/f NMSS r/f DWM r/f PAHL r/f
 WKane JGreeves MFederline RJohnson Hickey JHolonich KStablein

DOCUMENT NAME: s:\dwm\pah\smc\whpap1

OFC	PAHL	PAHL	DWM	NMSS		
NAME	SCoplan/jcg	MBell	WE	CPaperiello		
DATE	3/18/98	3/18/98	3/18/98	3/18/98		/ 198

OFFICIAL RECORD COPY

LSS : YES __ NO __
IG : YES __ NO __

Delete file after distribution: Yes __ No __