UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555

November 19, 1991

NRC INFORMATION NOTICE 91-72: ISSUANCE OF A REVISION TO THE EPA MANUAL OF PROTECTIVE ACTION GUIDES AND PROTECTIVE ACTIONS FOR NUCLEAR INCIDENTS

Addressees

All holders of operating licenses or construction permits for nuclear power reactors.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to notify addressees of the recent issuance of the revised Chapters 1, 2, and 5 and a new Appendix C to the U.S. Environmental Protection Agency (EPA) Manual of Protective Action Guides and Protective Actions for Nuclear Incidents. Suggestions contained in this information notice are not NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances

On October 15, 1991, EPA issued revised Chapters 1, 2, and 5 and a new Appendix C of its Manual of Protective Action Guides and Protective Actions for Nuclear Incidents (cover letter attached). EPA revised this manual to incorporate in it the current health physics practice for dose units and to expand the applicability of the guidance to include nuclear incidents for both commercial and Federal facilities.

The revisions update the 1980 EPA Guidance in several important ways. The most important feature of this revision is that it uses the committed effective dose equivalent to express the protective action guides (PAGs) for the plume instead of using a whole body dose. This revised approach accounts for the contribution from the following:

1. External exposure to the plume
2. The committed effective dose equivalent from inhaling particulates in the plume
3. Four-day exposure to external gamma radiation from deposited materials

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Using the committed effective dose equivalent allows the revised guidance to apply to incidents involving the release of radioactive material at facilities other than commercial nuclear power plants.

One other important feature of this revision is the clarification made on the protective actions most suitable for the plume PAG range. EPA emphasized that for most incidents, under normal conditions, evacuation of members of the public should be initiated at a projected dose of 1 rem. Sheltering the public may be used as an alternative to evacuation under abnormal circumstances.

The NRC will publish guidance for applying and implementing the revised guidance in conjunction with EPA and the Federal Emergency Management Agency (FEMA). The implementation schedule for this revised guidance is expected to be in phase with the implementation of the recently revised Part 20 of Title 10 of the Code of Federal Regulations. To avoid confusion in taking protective actions, the licensee may wish to coordinate its activities with State and local agencies regarding any future revisions to the various emergency plans supporting a reactor facility.

Requests for copies of the PAG Manual can be directed to Allan C.B. Richardson (ANR-460), Office of Radiation Programs, Environmental Protection Agency, Washington, D.C. 20460.

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please contact one of the technical contacts listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

Charles E. Rossi

Charles E. Rossi, Director
Division of Operational Events Assessment
Office of Nuclear Reactor Regulation

Technical contacts: N. Prasad Kadambi, NRR
(301) 492-0841

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Attachments:
1. Letter from EPA Announcing Revision of the PAG Manual
2. List of Recently Issued NRC Information Notices

Computer Printout: See Jacket

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 15 1991

OFFICE OF
AIR AND RADIATION

Dear Emergency Response Planner:

Enclosed are revised pages for your copy of the Manual of Protective Action Guides and Protective Actions for Nuclear Incidents. This Manual provides the Environmental Protection Agency's (EPA) recommendations, pursuant to the Federal Emergency Management Agency's regulations under 44 CFR Part 351, for the levels of radiation exposure at which action should be taken to protect members of the public in the event of a nuclear accident. These revisions replace the 1980 versions of Chapters 1, 2 and 5, which were reprinted and distributed in February 1990, and add a new Appendix C. The balance of the Manual, which contains the Protective Action Guides (PAGs) for relocation and a reprint of "Recommendations for Accidental Radioactive Contamination of Human Food and Animal Feeds," published by the Food and Drug Administration (FDA) in 1982, should be retained as is. Previous versions of the Title Page, Preface, and Table of Contents should also be discarded and replaced by the enclosed new versions. If you do not have the complete manual, please advise us, and we will send you a new copy.

These new Chapters update the 1980 Guidance for the early phase of a nuclear incident in several important ways. First, they adopt current health physics practice for dose units. The principal PAG for protection against an airborne radioactive plume is now expressed in terms of the committed effective dose, rather than the previous whole body dose. This more general unit encompasses the risks from all radionuclides, and the PAG now addresses doses from all significant pathways. Chapter 5 contains extensive new tables which address important pathways for all of the radionuclides that are likely to be significant at nuclear incidents, for both commercial and Federal facilities.

Second, we have clarified the language regarding use of the PAG range. Guidance for protective actions is, we believe, most useful when the complexity of judgments required of decision-makers at the time of an incident is minimized. The guidance clarifies that the upper end of the PAG range is intended for use to accommodate special groups in the population and abnormal circumstances present at the time of an incident. It is not intended to accommodate differing views on the level of risk from a given dose, or on the risk level at which protective action should be initiated under normal circumstances. Finally, the

limits for workers exposed during the response to an incident have been refined.

These revised recommendations are intended to be phased into use in an orderly fashion. In the case of Nuclear Regulatory Commission (NRC) licensees, a period of time consistent with their implementation of the new 10 CFR Part 20 regulations is envisioned. The NRC will be advising its licensees, in due course, on appropriate steps to carry this out. At that time, the State emergency management agency and the State agency responsible for radiological protection should jointly work with NRC and their licensees to ensure a coordinated implementation. In the meantime, plans and procedures developed based on current guidance are acceptable. It is anticipated that the substantive change to most plans developed using the current guidance will be to the dose projection methodology, and revision to other major planning provisions will not be required at most of NRC's licensed facilities. In the case of Federal facilities, these recommendations are appropriate for use in any new, or at the time of revision of any existing, emergency response plans.

It is our hope that these expanded and updated recommendations will prove useful in implementing your emergency response functions. We will appreciate you advising us of your experience in applying these recommendations, including any problems encountered. We are continuing work to develop PAGs for drinking water and, in cooperation with FDA, revised PAGs for food. When this development is completed, and one or two years experience has been gained in the application of these recommendations, EPA intends to propose all of these PAGs to the President for formal incorporation into Federal Radiation Protection Guidance. In this sense, these current PAGs must still be regarded as interim recommendations. Requests for additional copies of the PAG Manual, and any questions regarding this revised Protective Action Guidance should be directed to Allan C.B. Richardson (ANR-460), Office of Radiation Programs, Environmental Protection Agency, Washington, D.C. 20460.

Sincerely,

Margo T. Oge

Margo T. Oge
Acting Director, Office of
Radiation Programs

Enclosures

LIST OF RECENTLY ISSUED
NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
91-71	Training and Supervision of Individuals Supervised by an Authorized User	11/12/91	All NRC medical licensees.
91-70	Improper Installation of Instrumentation Modules	11/4/91	All holders of OLs or CPs for nuclear power reactors.
91-69	Errors in Main Steam Line Break Analyses for Determining Containment Parameters	11/1/91	All holders of OLs or CPs for pressurized-water reactors.
91-68	Careful Planning Significantly Reduces the Potential Adverse Impacts of Loss of Offsite Power Events During Shutdown	10/28/91	All holders of OLs or CPs for nuclear power reactors.
90-51, Supp. 1	Failures of Voltage-Dropping Resistors in the Power Supply Circuitry of Electric Governor Systems	10/24/91	All holders of OLs or CPs for nuclear power reactors.
91-67	Problems With the Reliable Detection of Intergranular Attack (IGA) of Steam Generator Tubing	10/21/91	All holders of OLs or CPs for pressurized-water reactors.
91-66	(1) Erroneous Data in "Nuclear Safety Guide, TID-7016, Revision 2," (NUREG/CR-0095, ORNL/NUREG/CSD-6 (1978)) and (2) Thermal Scattering Data Limitation in the Cross-Section Sets Provided with the KENO and SCALE Codes	10/18/91	All fuel cycle licensees, critical mass licensees, interim spent fuel storage licensees, and all holders of operating licenses or construction permits for test, research, and nuclear power reactors.

OL = Operating License
CP = Construction Permit