



# REGULATORY GUIDE

OFFICE OF NUCLEAR REGULATORY RESEARCH

REGULATORY GUIDE 3.57  
(Task CE 501-4)

## ADMINISTRATIVE PRACTICES FOR NUCLEAR CRITICALITY SAFETY AT FUELS AND MATERIALS FACILITIES

### A. INTRODUCTION

Section 70.22, "Contents of Applications," of 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material," requires that applications for a specific license to own, acquire, deliver, receive, possess, use, or initially transfer special nuclear material contain proposed procedures to avoid accidental conditions of criticality. Section 70.24, "Criticality Accident Requirements," of 10 CFR Part 70 requires licensees who are authorized to possess special nuclear material in excess of certain amounts to maintain emergency procedures for each area in which such licensed special nuclear material is handled, used, or stored to ensure that all personnel withdraw to an area of safety upon the sounding of a criticality accident alarm.

The above procedures are elements of a nuclear criticality safety program for operations with fissionable materials at fuels and materials facilities (i.e., fuel cycle facilities other than nuclear reactors) in which there exists a potential for criticality accidents. This guide describes practices acceptable to the NRC staff for administration of such a program.

Any information collection activities mentioned in this regulatory guide are contained as requirements in 10 CFR Part 70, which provides the regulatory basis for this guide. The information collection requirements in 10 CFR Part 70 have been cleared under OMB Clearance No. 3150-0009.

### B. DISCUSSION

ANSI/ANS-8.19-1984, "Administrative Practices for Nuclear Criticality Safety,"\* was prepared by Subcommittee 8, Fissionable Materials Outside Reactors, of the

\*Copies may be obtained from the American Nuclear Society, 555 North Kensington Avenue, La Grange Park, Illinois 60525.

Standards Committee of the American Nuclear Society. ANSI/ANS-8.19-1984 was approved by the American National Standards Committee N16, Nuclear Criticality Safety, in early 1984 and by the American National Standards Institute (ANSI) on October 1, 1984.

ANSI/ANS-8.19-1984 provides guidance for administration of a nuclear criticality safety program for operations outside of reactors in which there exists a potential for criticality accidents. This guidance includes delineation of the responsibilities of management, supervision, and the nuclear criticality safety staff as well as objectives and characteristics of operating and emergency procedures.

### C. REGULATORY POSITION

The delineation of responsibilities of management, supervision, and the nuclear criticality safety staff as well as objectives and characteristics of operating and emergency procedures contained in ANSI/ANS-8.19-1984 describe practices generally acceptable to the NRC staff for administration of a nuclear criticality safety program for operations with fissionable materials at fuels and materials facilities in which there exists a potential for criticality accidents.

Section 11 of ANSI/ANS-8.19-1984 lists additional documents referred to in the standard. Endorsement of ANSI/ANS-8.19-1984 by this regulatory guide does not constitute an endorsement of these documents.

### D. IMPLEMENTATION

The purpose of this section is to provide information to applicants and licensees regarding the NRC staff's plans for using this regulatory guide.

The methods described in this guide were applied to a number of specific cases during reviews and selected

#### USNRC REGULATORY GUIDES

Regulatory Guides are issued to describe and make available to the public methods acceptable to the NRC staff of implementing specific parts of the Commission's regulations, to delineate techniques used by the staff in evaluating specific problems or postulated accidents, or to provide guidance to applicants. Regulatory Guides are not substitutes for regulations, and compliance with them is not required. Methods and solutions different from those set out in the guides will be acceptable if they provide a basis for the findings requisite to the issuance or continuance of a permit or license by the Commission.

This guide was issued after consideration of comments received from the public. Comments and suggestions for improvements in these guides are encouraged at all times, and guides will be revised, as appropriate, to accommodate comments and to reflect new information or experience.

Written comments may be submitted to the Rules and Procedures Branch, DRR, ADM, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

The guides are issued in the following ten broad divisions:

- |                                   |                                   |
|-----------------------------------|-----------------------------------|
| 1. Power Reactors                 | 6. Products                       |
| 2. Research and Test Reactors     | 7. Transportation                 |
| 3. Fuels and Materials Facilities | 8. Occupational Health            |
| 4. Environmental and Siting       | 9. Antitrust and Financial Review |
| 5. Materials and Plant Protection | 10. General                       |

Copies of issued guides may be purchased from the Government Printing Office at the current GPO price. Information on current GPO prices may be obtained by contacting the Superintendent of Documents, U.S. Government Printing Office, Post Office Box 37082, Washington, DC 20013-7082, telephone (202)275-2060 or (202)275-2171.

Issued guides may also be purchased from the National Technical Information Service on a standing order basis. Details on this service may be obtained by writing NTIS, 5285 Port Royal Road, Springfield, VA 22161.

8610270232  
PDR REGGD  
03.057 R  
PDR

licensing actions. These methods reflect the latest general NRC approach to administration of nuclear criticality safety programs for operations with fissionable materials at fuels and materials facilities. Therefore, except in those cases in which the applicant proposes

an acceptable alternative method for complying with specified portions of the Commission's regulations, the methods described in this guide will be used in the evaluation of submittals in connection with license applications submitted under 10 CFR Part 70.