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DRAFT REGULATORY GUIDE

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Contact: S. Parra (301)415-6433

DRAFT REGULATORY GUIDE DG-3011

USE OF FIXED NEUTRON ABSORBERS AT FUELS AND MATERIALS FACILITIES

A. INTRODUCTION

In 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material," Section 70.22, "Contents of Applications," 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 criticality accidents. This regulatory guide provides guidance for complying with this portion of the Commission's regulations by describing procedures for preventing criticality accidents by using fixed neutron absorbers in operations involving handling, storing, and transporting special nuclear material at fuels and materials facilities.

Regulatory guides are issued to describe and make available to the public such information as methods acceptable to the NRC staff for implementing specific parts of the NRC's regulations, techniques used by the staff in evaluating specific problems or postulated accidents, and guidance to applicants. Regulatory guides are not substitutes for regulations, and compliance with regulatory guides is not required. Regulatory guides are issued in draft form for public comment to involve the public in the early stages of developing the regulatory positions. Draft regulatory guides have not received complete staff review and do not represent official NRC staff positions.

This regulatory guide is being issued in draft form to involve the public in the early stages of the development of a regulatory position in this area. It has not received complete staff review and does not represent an official NRC staff position.

Public comments are being solicited on the draft guide (including any implementation schedule) and its associated regulatory analysis or value/impact statement. Comments should be accompanied by appropriate supporting data. Written comments may be submitted to the Rules Review and Directives Branch, DFIPS, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Copies of comments received may be examined at the NRC Public Document Room, 2120 L Street NW., Washington, DC. Comments will be most helpful if received by **June 20, 1997.**

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The information collections contained in this draft regulatory guide are covered by the requirements of 10 CFR Part 70, which were approved by the Office of Management and Budget, approval number 3150-0009. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

B. DISCUSSION

ANSI/ANS-8.21-1995, "Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors,"[1] was prepared by Subcommittee ANS-8, Fissionable Materials Outside Reactors, of the American Nuclear Society Standards Committee. ANSI/ANS-8.21-1995 was approved by the American National Standards Committee N16, Nuclear Criticality Safety, and by the American National Standards Institute (ANSI) in 1995.

ANSI/ANS-8.21-1995 provides guidance for using fixed neutron absorbers as an integral part of operations to prevent criticality accidents in operations involving handling, storing, and transporting special nuclear materials at fuels and materials facilities. The design, safety evaluations, and verification and inspection requirements for the use of fixed neutron absorbers for criticality safety control are specified in the standard.

The methods described in this guide were applied to a number of specific cases during reviews and selected licensing actions. These methods reflect the latest general NRC approach to criticality safety in operations involving the use of fixed neutron absorbers at fuels and materials facilities.

C. REGULATORY POSITION

ANSI/ANS-8.21-1995, "Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors," provides procedures acceptable to the NRC staff for the use of fixed neutron absorbers in handling, storing, and transporting special nuclear material at fuels and materials facilities to avoid criticality accidents. Use of ANSI/ANS-8.21-1995, however, is not a substitute for preparing and submitting detailed nuclear criticality safety analyses for specific operations.

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[1]Copies may be otained from the American Nuclear Society, 555 N. Kensington Avenue, La Grange Park, Illinois 60525.

Section 6 of ANSI/ANS-8.21-1995 lists additional documents referred to in the standard. The specific applicability and acceptability of three of these listed documents has been addressed in the latest version of the regulatory guides identified below.

Standard	Regulatory Guide	
ANSI/ANS-8.1-1983	3.4	Nuclear Criticality Safety in Operations with Fissionable Materials at Fuels and Materials Facilities
ANSI/ANS-8.5-1986	3.1	Use of Borosilicate-Glass Raschig Rings as a Neutron Absorber in Solutions of Fissile Material
ANSI/ANS-8.17-1984	3.58	Criticality Safety for Handling, Storing, and Transporting LWR Fuel at Fuels and Materials Facilities

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.

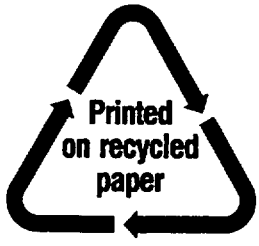
This draft guide has been released to encourage public participation in its development. Except in those cases in which the applicant proposes an acceptable alternative method for complying with specified portions of the NRC's regulations, the methods to be described in the active guide reflecting public comments will be used in the evaluation of submittals in connection with license applications submitted under 10 CFR Part 70.

REGULATORY ANALYSIS

This regulatory guide endorses ANSI/ANS-8.21-1995, "Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors." Issuing this regulatory guide is consistent with the NRC policy of evaluating the latest national consensus standards in terms of their suitability for endorsement by regulatory guide. The methods described in this guide were applied to a number of specific cases during reviews and selected licensing actions. These methods reflect the latest general NRC approach to criticality safety in operations involving the use of fixed neutron absorbers at fuels and materials facilities.

The value to NRC operations and industry is that there would be (1) a systematic method for specifying and reviewing technical specifications on allowable fixed neutron absorbers, (2) more established methods for specifying technical specifications, (3) guidance on design, evaluation, verification, and inspection of fixed neutron absorbers, and (4) less chance for unwarranted criticality accidents.

ANSI/ANS-8.21-1995, "Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors," provides more specific guidance on establishing and using fixed neutron absorbers. It does not provide any new methodology for establishing the use of fixed neutron absorbers than is presently required in 10 CFR Part 70. Thus, the incremental cost should be negligible (or at most marginal) if an applicant or licensee follows the guidance in ANSI/ANS-8.21-1995 as opposed to not following this standard.



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