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Division 1
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DRAFT REGULATORY GUIDE

Contact: C. Feldman (301) 492-3883

RECORDS IMPORTANT FOR DECOMMISSIONING OF NUCLEAR REACTORS

A. INTRODUCTION

The general requirements for applications for license termination and decommissioning* of nuclear reactors are contained in 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities." On June 27, 1988, the NRC amended its regulations in 10 CFR Part 50 concerning specific criteria for decommissioning nuclear facilities (53 FR 24018). Amended paragraph 50.75(g) requires licensees to keep records of information important to safe and effective decommissioning in an identified location until the license is terminated by the NRC. This section of the rule also identifies the kinds of information the NRC considers important to decommissioning.

This draft regulatory guide has been developed in conjunction with the decommissioning rule amendments and is being published for public comment. The purpose of this guide is to provide guidance concerning the specific information that should be kept and maintained in the decommissioning records required by the rule amendments regarding the radiological conditions at the plant that could affect occupational and public health and safety during decommissioning.

Any information collection activities mentioned in this draft regulatory guide are contained as requirements in 10 CFR Part 50, which provides the regulatory basis for this guide. The information collection requirements in 10 CFR Part 50 have been cleared under OMB Clearance No. 3150-0011.

*Decommissioning means to safely remove nuclear facilities from service and reduce residual radioactivity to a level that permits release of the property for unrestricted use and termination of the license.

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 Regulatory Publications 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 December 29, 1989.

Requests for single copies of draft guides (which may be reproduced) or for placement on an automatic distribution list for single copies of future draft guides in specific divisions should be made in writing to the U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Director, Division of Information Support Services.

B. DISCUSSION

In planning for the actual decommissioning of a reactor, it is necessary to have as complete knowledge as possible of the existing radiological conditions in the reactor.

The rule amendments require submittal of a preliminary decommissioning plan about five years before permanent shutdown (10 CFR 50.75(f)) and submittal of a decommissioning plan at the time of permanent cessation of operations (10 CFR 50.82(a)). Both these plans will contain a description of planned decommissioning activities and a description of methods used to ensure protection of workers and the environment against radiation hazards during decommissioning. To develop these descriptions, information such as levels and locations of radiation and quantities of specific radionuclides present in areas of the facility that are to be decommissioned would be included. Certain areas may not have been normally accessible during normal operations, but workers could come in contact with them during decommissioning operations. Knowledge of radiological conditions in and around the reactor will serve to facilitate decommissioning by minimizing occupational exposure and reducing the risk of any public exposure.

Input to the reactor decommissioning plan would include records of spills or other unusual occurrences that took place over the operating life of the reactor where significant contamination may remain, up-to-date drawings of restricted areas where radioactive materials are present, and potential locations of inaccessible contamination. Records of such information would indicate conditions in the reactor facility that could adversely affect health and safety, and these records could be used to minimize radiation exposure during decommissioning activities. For example, the decommissioning records would contain information on radiation sources that could otherwise be forgotten over the period of operation, such as buried pipes contaminated with radioactive material. Hence the amended rule sections require that records be kept of spills or unusual occurrences resulting in significant contamination remaining after cleanup procedures or when contaminants may have spread to inaccessible areas. The amendments also require that records be kept of as-built drawings, modifications of structures and equipment in restricted areas where radioactive materials are used or stored, and locations of possible inaccessible contamination.

C. REGULATORY POSITION

This section describes methods of implementing the general requirements for recordkeeping for licensees who must comply with 10 CFR 50.75(g).

1. GENERAL

1.1 The location containing the decommissioning records should be clearly identified and designated as containing records and information important to safe decommissioning.

1.2 Information related to decommissioning need not be submitted to the NRC as it is collected and filed, but the necessary documents should be maintained in appropriate files and be available for inspection upon request by the NRC.

1.3 Plant operating procedures should clearly define responsibility for collection, retention, maintenance, updating, and retrieval of the decommissioning records.

1.4 Decommissioning records should be reviewed periodically by plant management to ensure their completeness and ability to serve their intended function.

1.5 The collection, safekeeping, retention, maintenance, and updating of decommissioning records should be included in the overall site quality assurance program, consistent with the coverage for other health and safety records systems. Regulatory Guide 1.88, Revision 2, "Collection, Storage, and Maintenance of Nuclear Power Plant Quality Assurance Records," should be used in particular for guidance on records administration, storage, preservation, safekeeping, and retrieval of the decommissioning records.

2. REFERENCES TO OTHER RECORDS

Paragraph 50.75(g) indicates that, if records of information relevant to decommissioning are kept for other purposes, reference to those records and

their locations may be substituted. If reference is made to other records, the following should be considered.

2.1 There should be an entry in the decommissioning records referring to the other record. The reference should be clear and specific, providing at least a one-sentence description of the subject and providing the referenced file location.

2.2 The licensee should take measures to avoid loss of the information in the original document in the referenced file in case that file is destroyed before the license is terminated, for example, by cross-referencing the original document or its file to the decommissioning records. Records that are referenced but not included in the decommissioning records themselves should be so labeled and marked not to be removed or destroyed without approval by the individual responsible for maintaining decommissioning records.

2.3 Reference may be made to reports made under other regulatory requirements concerning spills. However, the record for decommissioning purposes should specifically consider the contamination levels remaining after any cleanup activities.

3. CONTENT OF DECOMMISSIONING RECORDS FILE

3.1 Paragraph 50.75(g)(1) requires that records be kept of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site; that the records may be limited to instances when significant contamination remains after any cleanup procedures or when there is reasonable likelihood that contaminants have spread to inaccessible areas; and that the records must include any known information on involved nuclides, quantities, forms, and concentrations.

3.1.1. The records should contain a description of the spill or occurrence, cleanup activities, and the location of the remaining contamination. Inaccessible areas would be areas beyond those normally encountered in operations, such as cracks in concrete, seepage into wood or tile, seepage into

equipment and components, or areas behind, below, or obstructed by equipment or structures. The records should contain sketches, diagrams, or drawings marked to show areas of contamination and points where radionuclide and radiation measurements were made.

3.1.2. The records should contain information related to site characterization, including information on radiological spills on the site, residual soil contamination levels, principal contaminant radionuclides, and on-site locations that may have been used for burial of radioactive materials.

3.1.3. The records should clearly indicate the specific radionuclides involved and the locations, quantity, form, and concentration of the radionuclide contamination, if known, and the basis for this information.

3.1.4. Only radionuclide contaminants with half-lives greater than 6 months need be included in the record.

3.1.5. Only records on contamination that could significantly impact decommissioning methods, costs, or occupational exposure should be included in the record file.

3.2 According to 10 CFR 50.75(g)(2), records are to be kept of as-built drawings and modified drawings of (1) structures and equipment in restricted areas where radioactive materials are used or stored, and (2) locations of possible inaccessible contamination. If the records reference other required drawings, each relevant document need not be indexed individually. If drawings are not available, appropriate records on available information concerning these areas and locations are to be substituted. In complying with these requirements the following should be considered:

3.2.1. Normal plant as-built drawings are sufficient for meeting the requirements of 10 CFR 50.75(g)(2). Drawings of restricted areas where radioactive materials are used or stored should include drawings showing the location of structures, systems, equipment, and components in restricted areas as defined in 10 CFR 20.3(14).

3.2.2 Drawings of areas of possible inaccessible contamination should include buried pipes or other areas obstructed by equipment or structures or as indicated in Regulatory Position 3.1.1.

3.2.3 If other drawings are referenced, it is sufficient to reference the general category of drawings being referenced (for example, drawings of a particular laboratory location, plant structure, or equipment) and the specific location where those drawings are kept (for example, the file room at the facility and specific file number).

3.2.4 If drawings are unavailable, appropriate records of available information may be substituted, including written descriptions of particular areas, recent sketches, or photographs.

4. CURRENT LICENSEES

Current licensees should review their recordkeeping provisions to be sure they meet the requirements of 10 CFR 50.75(g). Records of spills or other unusual occurrences, if such information exists, and records of existing drawings should be reviewed. A location for the decommissioning records should be clearly identified and established by either incorporating these existing files in the decommissioning records or by referencing the existing files. If drawings are not available, alternative records should be created as in Regulatory Position 3.2.4. Recreation of records on spills and occurrences beyond what is known in existing documentation is not necessary.

D. IMPLEMENTATION

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

This draft regulatory guide has been released to encourage public participation in its development. Except in those cases in which a licensee proposes an acceptable alternative method for complying with specified portions of the Commission's regulations, the guidance to be described in the active guide reflecting public comments will be used in the evaluation of a licensee's provisions for maintenance of records important to decommissioning for all licensees with operating licenses in effect on or after the implementation date to be specified in the final guide.

DRAFT VALUE/IMPACT STATEMENT

1. PROPOSED ACTION

1.1 Description

On June 27, 1988, the Commission amended Part 50 to set forth criteria for decommissioning (53 FR 24018). The rule amendment, 10 CFR 50.75(g), requires licensees to keep records of information important to safe and effective decommissioning in an identified location until the license is terminated by the NRC. The new rule section also indicates general information that the NRC considers important to decommissioning. This proposed action is to issue a draft regulatory guide on recordkeeping for decommissioning. The draft regulatory guide would be issued for comment in support of the amended rules on decommissioning.

1.2 Need

In planning for the actual decommissioning of a reactor, it is necessary to have as complete knowledge as possible of the radiological condition of the reactor. This information will serve to facilitate decommissioning by minimizing occupational exposure and reducing the risk of any public exposure. The purpose of decommissioning records is to keep and maintain information concerning contamination remaining from spills or other occurrences and to maintain up-to-date drawings of restricted areas where radioactive materials are used or stored or of inaccessible areas so that this information can be used when planning for decommissioning. At the present time there is no published NRC guidance concerning methods for establishing and maintaining decommissioning records in a manner considered acceptable to the NRC staff. Specific information should be provided on details of recordkeeping for decommissioning so that licensees can develop and maintain records required by the rule amendment with a minimum of time and effort. This guide would describe methods acceptable to the NRC staff for implementing the general requirements on recordkeeping.

1.3 Value/Impact

1.3.1 NRC

Information in the decommissioning records would not be submitted to the NRC, so no staff review is necessary; however, the licensee's records would be subject to routine inspections to verify that the required records are properly maintained. This regulatory guide would identify criteria for recordkeeping for decommissioning. Application and use of this guidance by NRC staff members who engage in inspections will aid their review of licensee recordkeeping provisions. The Regulatory Analysis for the decommissioning rule amendments (10 CFR 50.75(g)) estimated the staff time involved in consideration of recordkeeping by licensees. This guide does not add to this review time but provides guidance for satisfying recordkeeping provisions required by the rule, and in so doing minimizes staff time to the extent practicable.

In addition, appropriate information in the records would provide the basis for more acceptable decommissioning plans being submitted to the NRC, which could significantly reduce the time required for staff review of those decommissioning plans.

1.3.2 Other Government Agencies

State or Federal agencies (for example, a State university) that hold a license from the NRC for a nuclear facility will be affected. The value/impact is expected to be similar to that for industry (see Section 1.3.3).

1.3.3 Industry

Industry should benefit from this action because it provides guidance and criteria for meeting the recordkeeping requirements contained in the rule amendments on decommissioning. Publication of a draft guide will allow industry representatives to participate in the development of a final regulatory guide by submitting comments. The Regulatory Analysis for the rule amendments on decommissioning estimated the impact on industry for the implementation of recordkeeping requirements. No additional impact is anticipated as a result of this proposed action since it merely provides guidance for recordkeeping required by the rule and, in so doing, minimizes impact on industry to the extent practical. The proposed action informs licensees of the type of information that should be kept in decommissioning records, which would minimize their costs.

1.3.4 Public

This proposed action would provide guidance to licensees on information that should be kept in decommissioning records. Such records would be more reliable and complete, which would reduce the potential of leaving excessive residual radioactivity and would reduce occupational exposures. Reliable records also reduce the chances for inefficient decommissioning, thus minimizing the cost of decommissioning and increasing the assurance that funds will be available for decommissioning. Thus, this proposed action would have a beneficial effect on public health and safety. Issuance of a draft regulatory guide for public comment would also allow for broader input when developing the final guide.

2. TECHNICAL APPROACH

The guide does not set forth any technical positions, thus this section is not applicable.

3. PROCEDURAL APPROACH

3.1 Procedural Alternatives

NRC procedures that may be used to promulgate the information contained in the guide are:

- Regulation
- Policy statement
- NUREG-series report
- Regulatory guide
- Branch technical position

A policy statement or a regulation are not suitable for incorporating the degree of detail that would be presented in the guide. Branch technical positions (BTP) are sometimes prepared for specific guidance. However, no BTP is being developed on this subject. NUREG reports provide information, but they usually contain results of specific studies and are not suitable for providing guidance. This proposed action is to provide nuclear reactor licensees with information related to keeping records important to safe and effective

decommissioning. Such recordkeeping is required by the recently published rule amendments on decommissioning (53 FR 24018, June 27, 1988). A regulatory guide is considered the best alternative for accomplishing this purpose.

4. STATUTORY CONSIDERATIONS

4.1 NRC Authority

Authority for the proposed action is derived from the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, as amended and implemented through the Commission's regulations cited in the introduction to the guide.

4.2 Need for Environmental Assessment

Issuance or amendment of guides for implementing regulations in Title 10, Chapter I, of the Code of Federal Regulations is a categorical exclusion under paragraph 51.22(c)(16) of 10 CFR Part 51. Thus no environmental impact statement or assessment is necessary.

5. RELATIONSHIP TO OTHER EXISTING OR PROPOSED REGULATIONS OR POLICIES

The draft regulatory guide would be issued for public comment in support of the rule amendments on decommissioning (53 FR 24018, June 27, 1988, effective date of July 27, 1988).

6. SUMMARY AND CONCLUSIONS

The proposed regulatory guide should be issued for public comment.

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