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

May 8, 1980

SECY-80-236

CONSENT CALENDAR ITEM

For: The Commissioners

From: Robert B. Minogue, Director, Office of Standards Development

Thru: Executive Director for Operations

Subject: ISSUANCE OF THE FINAL RULE, PART 72, "LICENSING REQUIREMENTS FOR THE STORAGE OF SPENT FUEL IN AN INDEPENDENT SPENT FUEL STORAGE INSTALLATION"

Purpose: To obtain Commission approval to publish the effective rule that establishes the licensing requirements for the temporary storage of spent fuel in an independent spent fuel storage installation (ISFSI).

Category: This paper covers a major regulatory action requiring Commission approval.

Discussion: This paper specifically addresses the proposed spent fuel storage rule, 10 CFR Part 72. A related action is documented in NUREG-0575, the GEIS on spent fuel handling and storage.

There are also ongoing actions in the development of more definitive regulations covering emergency plans. A proposed amendment to Appendix E of Part 50 covering emergency plans for nuclear power plants was published for comment on December 19, 1979. It is recognized that a similar rulemaking action covering emergency plans for fuel cycle facilities may be necessary. It is anticipated that the final results of these actions may require a conforming amendment to Part 72 at a later date.

On July 19, 1978, the staff discussed with the Commission (SECY-78-378) the proposed new regulation, 10 CFR Part 72, that would establish specific licensing requirements for storage of spent fuels in an ISFSI. The proposed new regulation was published for public comment in the Federal Register on October 6, 1978 (43 FR 46309).

In response to this notice, the NRC received 70 letters containing more than 600 specific comments, which presented the views of concerned citizens, utility companies, government agencies, law firms, and other interested organizations. In addition, a number of comments were received from NRC staff personnel throughout the development of this rule.

Contact:
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Meetings were held on January 3 and February 23, 1979, with an ACRS Ad Hoc Subcommittee on Spent Fuel Storage Pool Design to discuss the 10 CFR Part 72 requirements and accident scenarios for an ISFSI.

Enclosure "B" is a draft of NUREG-0587, "Analyses of Comments on Part 72," which we plan to publish concurrently with the effective rule. Chapter I of this report is a summary discussion of the major issues raised by the comments received. The Supplementary Information section of the Federal Register Notice containing the proposed rule is based on this material. Chapter II of this report is the detailed staff discussions of the individual comments received.

The text of the proposed rule, as published, and the text of the proposed final rule reflecting changes in response to comments from both the public and staff and copies of the individual comment letters are included in the above report as Appendices A and B, respectively.

A number of changes were made; however, none are considered to be significant enough to require republication for comment. Highlights of the changes made are:

1. The purpose was changed to emphasize that spent fuel is the licensed material rather than its contained source, byproduct, and special nuclear material. The scope was changed to clarify that the rule covers both wet and dry storage and is limited to temporary storage only. A number of definitions were changed to improve clarity and consistency in wording, particularly the site-related terms.

2. The sections on the license application and issuance of licenses were expanded to better define the required detail in the SAR and its periodic updating, to clarify the decommissioning plan and the financial arrangements for its execution and the requirements for issuance of a license. A section was also added to provide for public hearings on proposed licensing actions.

3. The sections on siting criteria were expanded to cover environmental considerations and more definitive criteria for controlled area, the ISFSI Emergency Planning Zone and regions of interest for an ISFSI which are based on

dose limits and environmental impacts from both normal operations and accidents.

4. The sections on site evaluation for potential seismicity and the determination of the design earthquake for structures have been expanded. The option of using a standard design earthquake of 0.25 g and limited site investigations has been retained for use at sites east of the Rocky Mountains that are in areas of low potential seismic activity. For other eastern sites and those west of the Rocky Mountains, potential seismicity and the design earthquake for structures must be determined by the current practice for nuclear power plants. The rule has been clarified to convey more clearly our intent that the use of the standard earthquake, where permitted, is applicable to the structural design of the installation and not the foundation geology of the site. The foundation geology of each site is to be determined case by case.

Regulatory Guides and standards which will implement Part 72 are being developed concurrently with this rule. Those that are expected to be ready for publication within 3 to 6 months after publication of the effective rule are:

1. Regulatory Guide 3.44, "Standard Format and Content of the SAR for an ISFSI which Utilizes Massive Structures." This guide which was published for comment in December 1978 covers the information in the Safety Analysis Report that must be submitted with an application to store spent fuel in an ISFSI. No major changes in this guide needed to be made in response to public comments, but it did need revision to track the final rule. The final version is now being circulated for office review.

2. Regulatory Guide 3.XX, "Guidance on the License Application to Store Spent Fuel in an ISFSI." The first draft of this guide covers the information not included in the SAR that should be submitted in the license application; it is now receiving staff review. Some of the subjects covered, in addition to format and style, are financial information, emergency plan, environmental report, inventory and records, physical protection and operator training.

3. National Standard ANSI/ANS 57.7, "Design Criteria for an Independent Spent Fuel Storage Installation (water pool type)." This standard was approved by ANS in April 1980, and will be transmitted to ANSI for publication. It is planned to use this standard as the basis for a regulatory guide.

Recommendation: That the Commission:

1. Approve the notice of final rulemaking (Enclosure "A"), which includes (a) Supplemental Information wherein the major issues are discussed and resolved and (b) the final rule for licensing spent fuel storage in an ISFSI.

2. Note

   a. That a letter such as Enclosure "C" will be sent to the Committee on Interior and Insular Affairs, the Subcommittee on Energy and Power of the Committee on Interstate and Foreign Commerce and the Subcommittee on Environment, Energy and Natural Resources of the Committee on Government Operations, all of the U.S. House of Representatives, and the Subcommittee on Nuclear Regulation of the Committee on Environment and Public Works and the Subcommittee on Energy, Nuclear Proliferation and Federal Services of the Committee on Governmental Affairs of the U.S. Senate.

   b. A public announcement will be issued when the notice is filed with the Office of the Federal Register (Enclosure "D").

Coordination: The Offices of Nuclear Material Safety and Safeguards and Inspection and Enforcement concur in the recommendation in this paper. The Office of Executive Legal Director has no fundamental legal objection, but believes that the matters identified in Enclosure "G" require further clarification.

The Office of Nuclear Reactor Regulation has raised the generic question of the licensing of any "non-production and utilization" activity on a reactor site, specifically for spent fuel storage in an ISFSI. NRR agrees that the NRR memorandum and the discussion of questions raised therein, attached as Enclosure "E", is an accurate presentation of this subject.

The Acting Executive Director for Operations has reviewed the rule and NRR comments and supports the rule as written. His comments are at Enclosure H.

The Offices of the General Counsel and Policy Evaluation have as discussed in Enclosure "F" reviewed drafts of the materials contained herein and their comments generally have been accommodated.

The Office of Public Affairs has prepared the enclosed draft public announcement, Enclosure "D".

Robert B. Minogue 4/24/80
Robert B. Minogue, Director
Office of Standards Development

Enclosures:
"A" - Federal Register Notice
"B" - NUREG-0578 "Analyses of Comments on 10 CFR Part 72"
"C" - Congressional Letters
"D" - Draft Public Announcement
"E" - Discussion of licensing non-production and utilization" facilities on a reactor site.
"F" - Discussion of OGC and OPE Comments
"G" - OELD Comments
"H" - EDO Comments

Note: Commissioner's comments or consent should be provided directly to the Office of the Secretary by close of business Friday, May 23, 1980

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT May 17, 1980, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

This paper is tentatively scheduled for affirmation at an open Meeting during the Week of June 2, 1980. Please refer to the appropriate Weekly Commission Schedule, when published, for a specific date and time.

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[7590-01]

NUCLEAR REGULATORY COMMISSION

10 CFR PART 72

LICENSING REQUIREMENTS FOR THE STORAGE OF SPENT FUEL IN AN INDEPENDENT SPENT FUEL STORAGE INSTALLATION

APRIL 1980

Enclosure "A"

[7590-01]

NUCLEAR REGULATORY COMMISSION

10 CFR PART 72

LICENSING REQUIREMENTS FOR THE STORAGE OF SPENT FUEL IN AN INDEPENDENT FUEL SPENT STORAGE INSTALLATION

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final Rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) is adding a new Part to its regulations to cover the specific licensing requirements for the storage of spent fuel in an independent spent fuel storage installation (ISFSI). Such activities are currently licensed under the Commission's general regulation for the Domestic Licensing of Special Nuclear Material, 10 CFR Part 70. Experience with licensing actions under this regulation demonstrated the need for a more definitive regulation to cover spent fuel storage in an ISFSI. This new Part was developed to meet this need.

DATES: Effective date:

Note.--The NRC did not submit this rule to the Comptroller General for a review of its reporting and recordkeeping requirements because the projected number of licensees involved, fewer than 10, makes it exempt from the Federal Reports Act, as amended, 44 USC 3512.

FOR FURTHER INFORMATION CONTACT: Russell E. L. Stanford, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, (301)443-5910.

SUPPLEMENTARY INFORMATION: On October 6, 1978, the NRC published in the Federal Register (43 FR 46309) a notice of proposed rulemaking covering the storage of spent fuel in an independent spent fuel storage installation (ISFSI). In addition, copies of the proposed rule with a request for comments were sent to individuals, organizations, and government agencies thought to be potentially interested in this subject.

Seventy letters, containing more than 600 individual comments, were received in response to this request. A number of individual letters were submitted on behalf of several contributors. In addition, a number of comments were received from interested NRC staff members. The comments covered a number of generic subjects in addition to ones addressed to specific sections of the draft rule. After a careful consideration of all of the comments received, the Commission has adopted 10 CFR Part 72 in effective form. Major issues contained in these comments and resulting changes in the rule are discussed below. The detailed responses to individual comments are documented in NUREG-0587, "Analyses of Comments on 10 CFR Part 72." Copies of this report are available from the Division of Technical Information and Document Control, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

Issues Addressed in Public Comments

1. Need for a Rule at This Time.

Fifty commenters showed a broad recognition of the need for the proposed rule at this time and endorsed this action by the NRC, although exceptions were taken to some of the specific requirements. Twelve commenters were opposed to this new rule and its promulgation at this time. For example, some of these commenters expressed a concern that the promulgation of a rule covering spent fuel storage would decrease

pressures on both industry and government to solve the radioactive waste problem. Others advocated a halt to the generation of spent fuel, i.e., shut down nuclear power plants until the waste problem is solved.

Following the President's deferral of reprocessing of spent fuel in April 1977 came the general recognition that, regardless of future developments, spent fuel would have to be stored for a number of years prior to its ultimate disposition, and that the storage of spent fuel in an ISFSI would be a likely additional new step in the nuclear fuel cycle. The NRC expects a number of license applications covering this activity in the near future. Part 72 establishes specific regulatory requirements for this activity.

It is the judgment of the Commission that the promulgation of Part 72, which is designed to codify certain existing regulatory practices and better define licensing requirements covering the storage of spent fuel in an ISFSI, is consistent with the NRC objective of having applicable regulations in place to meet anticipated needs.

2. Purpose and Scope of Part 72

In the opinion of those commenters who consider spent fuel to be a high-level waste, the licensing of spent fuel storage is the de facto licensing of the temporary storage of high-level wastes. Others commented that Part 72 could be expanded to cover the temporary storage of high-level wastes in a facility like an ISFSI to allow further radioactive decay prior to placement in a repository.

Part 72 is limited in scope to the temporary storage (up to 20 years with renewal at the option of the Commission) of spent fuel (and radioactive materials associated with spent fuel storage) in facilities designed

specifically for this purpose. The purpose of Part 72 is to prescribe the regulatory requirements for this activity.

The Commission has stated that spent fuel from power reactors is high-level waste for the purposes of Section 202(3) of the Energy Reorganization Act.[1/] Thus an ISFSI that is operated by the Department of Energy must be licensed by NRC.

3. De Facto Support of Nuclear Power

Some commenters interpreted the promulgation of Part 72 as de facto support by the Commission of the continuing production of electricity by nuclear power (and its resultant waste generation) without a national waste management policy. The Commission's intent in promulgating Part 72 is simply to have applicable regulations in place for the protection of the health and safety of the public and of the environment if applications are received for the storage of spent fuel in an ISFSI. The Commission's position on the subject of waste management was addressed in the FEDERAL REGISTER notice on 10 CFR Part 51, published on August 2, 1979 (44 FR 45362) promulgating a final rule which sets out in Table S-3, Table of Uranium Fuel Cycle Environmental Data, revised environmental impact values for the uranium fuel cycle including waste disposal and the notice of proposed rulemaking on 10 CFR Parts 50 and 51, "Storage and Disposal of Nuclear Wastes," published on October 25, 1979 (44 FR 61372).

4. Adequacy of Technology Base

A number of commenters questioned the adequacy and availability of the technology base for the development of a rule covering extended spent

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[1/] Statement of Dr. Joseph R. Hendrie, then Chairman of the U.S. Nuclear Regulatory Commission before the Committee on Energy and Natural Resources. U.S. Senate. May 10, 1979.

fuel storage. In fact, there is a very broad technology base for both wet and dry modes of spent fuel storage.

Water basins are simple structures that have been used since the mid-1940s for the handling, transfer and storage of spent fuel and other highly radioactive sources such as Co-60 and for the shielding of research reactors, initially at government plants and later at commercial reactors. The engineering practices and procedures involved in their design and construction are well established. The operation of a water basin is also straightforward, the water chemistry is well established, and the maintenance of high quality basin water is readily achievable. These water conditions are essentially non-corrosive to both the materials involved in the basin itself and the components of spent fuel assemblies from commercial light water reactors. Both experience and theoretical analyses of basin storage conditions indicate that spent fuel can be stored underwater for several decades without serious degradation.

Although dry storage has not been used for commercial light water reactor (LWR) fuels, dry storage has been used for a number of years for other types of spent fuels and other highly radioactive materials, particularly at the Idaho Nuclear Engineering Laboratory. Dry storage is used for spent MAGNOX fuels at the Wyfla Power Station in Wales. Canada is developing dry storage for CANDU reactor fuels, and the U.S. Department of Energy (DOE) is evaluating the storage of high burnup LWR fuels both in concrete and steel canisters similar to the Canadian design and in near-surface dry well storage at the Nevada Test Site.

5. Is Spent Fuel Storage a Low Risk Operation?

Some commenters questioned whether the extended storage of spent fuel is a low risk operation as stated in the preamble to the proposed rule.

Radiological risks to the public result from a release of radioactive materials and their dispersal to the environment. Once in place, spent fuel storage is a static operation and during normal operations the conditions required for the release and dispersal of significant quantities of radioactive materials are not present. There are no high temperatures or pressures present during normal operations or under design basis accident conditions to cause the release and dispersal of radioactive materials. This is primarily due to the low heat generation rate of spent fuel with more than the one year of decay before storage in an ISFSI required by the rule and with the low inventory of volatile radioactive materials readily available for release to the environs.

However, it is essential to maintain safe storage conditions. For water basins, this means that the pool structure, storage racks and possibly other items such as crane tiedowns, must be designed to withstand the maximum potential natural phenomena, including earthquakes, to which the ISFSI may be exposed. For this reason, the rule stresses the selection of sound sites and designing for the most severe natural phenomena reported for the site and surrounding area. The same considerations are applicable to ISFSI designs other than water basins.

6. Coverage of Dry Storage and Existing Facilities.

A number of commenters suggested that the purpose and scope be written in more definitive language and specifically to cover dry storage and other radioactive materials associated with spent fuel, recognizing that this was intended in the proposed rule. The wording was changed for improved clarity in response to these suggestions. In addition, paragraph 72.2(c) was added to the scope to clarify the fact that

this rule covers both wet and dry storage. Other appropriate changes were made in the body of the rule to further clarify this point.

The Department of Energy in particular suggested that the coverage of existing spent fuel storage facilities be more explicit. In response, paragraph 72.2(d) was added to require existing facilities to meet the requirements of Part 72 except for the site selection criteria in Subpart E.

7. Types of Fuel Covered and Decay versus Fuel Characteristics

Comments were received suggesting that the rule be broadened to cover other than LWR spent fuel, e.g., CANDU reactor fuel that might be received from abroad. In response, the definition of spent fuel was broadened to cover all types of power reactor fuels. An ISFSI would have to be designed to accommodate the types of spent fuel to be stored, and any restrictions on fuel types would be a subject of license conditions.

Some commenters questioned the one-year decay stipulation, preferring that this requirement be expressed in terms of specific power, burnup, or other pertinent fuel characteristics. In practice, specific power is important only for freshly discharged fuel as the power level prior to shutdown is the controlling factor for the concentration of short-lived radionuclides present in spent fuel. The long-lived radionuclides present in spent fuel are proportional to burnup; but within the limits of expected burnups, this is not a significant factor for spent fuel aged more than one year.

The one-year decay stipulation has been retained as this is a basis for the requirements of Part 72, i.e., the presumption is made that no short-lived radionuclides are present and the levels of volatile radioactive materials are very substantially reduced.

8. Definition of Temporary Storage

In response to comments, a definition of temporary storage has been added as paragraph 72.3(x). Temporary storage, in the context of Part 72, means "interim storage of spent fuel for a limited time only, pending its ultimate disposal."

9. Material versus Facility License

Some confusion and misunderstanding over the differences between a Part 70 "material" license and a Part 50 "facility" license was reflected by a number of commenters. Under Part 70, a licensee is authorized to receive title to, own, acquire, deliver, receive, possess, use, and transfer special nuclear material for a stated purpose, such as fuel manufacturing, to be carried out in an approved plant complex; however, the plant itself is not licensed but its operation is regulated. Under Part 50, a licensee is authorized to transfer or receive in interstate commerce, manufacture, produce, transfer, acquire, possess or use a production or utilization facility, as defined by the Atomic Energy Act; the license covers the facility, not the material. The possession of fuel by a reactor licensee is covered under a Part 70 license, which is incorporated into the Part 50 license. The licensing of spent fuel storage in an ISFSI under Part 72 is a material type of license; however, Part 72 includes requirements for an ISFSI that are conditions under which a license to possess spent fuel will be issued.

10. One License Application and One Safety Analysis Report

For some time the NRC has endeavored to simplify its regulations and licensing activities. As spent fuel storage in an ISFSI is a simple operation, does not require a complex plant and is subject to few controversial

technical issues, a one step licensing procedure requiring only one application and one SAR was adopted in Part 72. This one step licensing procedure was the subject of a number of comments. It is believed that the rewording of the text of the rule plus the discussions of individual comments in NUREG-0587 have clarified requirements and the one application and one SAR requirement has been retained in Part 72. However, it should be recognized that locating an ISFSI on a nuclear power plant site may require an amendment to the Part 50 license to take into account possible interactions with the ISFSI.

11. Accident Analyses

A number of comments addressed the subject of accident analyses, particularly an apparent inconsistency between the 24-hour inhalation/ingestion dose addressed in paragraph 72.15(a)(13) and the 2-hour direct radiation dose used as a site evaluation factor in §72.67.

In response to those comments and upon further consideration, paragraph 72.15(a)(13) was revised to require accident analyses to cover both immediate dose and long-term dose commitment based on the duration of the postulated event rather than on an arbitrary time limit. Accident criteria to be used in site evaluation were removed from §§72.65 and 72.67 and placed in a new §72.68 which addresses the criteria for establishing the controlled area for an ISFSI.

12. Decommissioning Plan

The requirement in Part 72 that the license application include a plan for decommissioning of the proposed ISFSI and the financial arrangements therefor was the subject of many comments. The reason for this requirement is that the decommissioning plan provides design input (see

§72.76) and the basis for the costs of decommissioning. Part 72 makes it a requirement that adequate financial arrangements to cover the cost of decommissioning should be made before a license is issued.

Although decommissioning of an ISFSI should require only the removal of surface contamination, planning for decontamination and decommissioning is an essential element of design input. The value of a decommissioning plan being developed at the license application stage is that this plan demonstrates the extent to which the proposed ISFSI has been designed for decommissioning.

The provisions for financing the ultimate decommissioning of an ISFSI were also the subject of many comments reflecting that this is a problem yet to be resolved. This should not be a serious problem as the cost of decommissioning an ISFSI that is designed for decommissioning should be small compared to these costs for some other nuclear facilities.

13. Prequalification of Part 50 Licensees

Some commenters, particularly utilities, suggested that Part 50 licensees should be considered to be prequalified. This suggestion was not adopted, although no serious difficulty is anticipated in the qualification of a Part 50 licensee. A Part 50 licensee must satisfy the requirement in Part 72 that an applicant have an adequately trained staff committed to the design, construction and operation of the proposed ISFSI. The storage of spent fuel in an ISFSI is a low risk operation provided the ISFSI is designed, constructed and operated in accordance with required standards. A commitment to this effect on the part of an applicant is considered important.

14. Required Detail and Updating of the SAR

Questions were raised on the required detail in the SAR and its updating. The single license granted under Part 72 prior to the start of construction requires considerable detail in the license application, particularly in the SAR. There must be sufficient detail to:

(1) support the findings enumerated in §72.31 for the issuance of a license, and

(2) Serve as the bases for both the license conditions applicable to design and construction and the license conditions, including technical specifications, applicable to operations.

The wording has been changed throughout the rule to clarify this point.

Updating the SAR during the design and construction phase of the project is required. However, such updating is limited to an elaboration or modification of the information in an approved SAR. Any changes involving an unreviewed safety question require an amendment to the license. An annual updating of the SAR after the ISFSI is built is required even if no changes have been made. Changes at an ISFSI after it is built are expected to be limited to support systems with only marginal safety significance. This requirement is comparable to that of the proposed amendment to §50.71 of 10 CFR Part 50, commonly referred to as the "FSAR Update Rule."

15. Content of Environmental Reports

The content of the environmental report required by §72.20 was the subject of a number of comments. The environmental report required for an ISFSI is an evaluation of the environmental impact of the ISFSI on the region in which it is located, including the transportation that is

involved. Discussions of generic issues covered by DOE and NRC generic environmental impact statements may be incorporated by reference.

16. Provision for Public Hearings and State and Local Participation in the Licensing Process

A number of commenters expressed concern over the omission in proposed Part 72 of any reference to public hearings or other provisions covering state and local participation in the licensing process. In accordance with the requirements of Sec. 189a of the Atomic Energy Act, as amended, which provides in part "...the Commission shall grant a hearing upon the request of any person whose interest may be affected by the proceeding...," the Office of Nuclear Materials Safety and Safeguards has established the practice of publicizing proposed spent fuel storage licensing actions and holding public hearings on a request by any person whose interest may be affected. A section based on the provisions of §§2.104 and 2.105 of 10 CFR Part 2, has been added to the rule (See §72.34).

17. Applicability of License Conditions

Some commenters raised questions on the content and applicability of license conditions, recognizing that license conditions are an important aspect of the single preconstruction license issued under Part 72. In response to these comments, the wording of §72.33 was changed to clarify the point that license conditions are applicable to design, construction, and operational activities. Since license conditions applicable to ISFSI operations are technical in nature, these have been identified by the more familiar term "Technical Specifications."

18. At-Reactor versus Away-From-Reactor Siting

Some commenters favored restricting the siting of ISFSIs to reactor sites, with the thought that this might reduce perceived transportation

risks and keep pressure on the nuclear industry to help solve the waste management problem. Others favored away-from-reactor siting, perceiving this to be safest solution even though transportation might be increased.

Also, some commenters interpreted the promulgation of Part 72 as reflecting an NRC bias favoring away-from-reactor siting. This conclusion is not correct. The NRC is not aware of any compelling reasons generally favoring either at-reactor or away-from-reactor siting of an ISFSI. There are many factors to be considered in each situation and in the licensing actions involved; accordingly, the rule permits either.

19. The Use of New Site-Related Terms

One subject of particular interest to many commenters was the use in Part 72 of new site-related terms ("controlled area," "neighboring area" and "region,") rather than the more familiar site-related terms used in 10 CFR Parts 20 and 100.

Several considerations went into the development of new terms for site-related areas around an ISFSI. While the terminology used in 10 CFR Part 20, specifically 'restricted' and 'unrestricted' areas, applies to all nuclear facilities, it is limited to radiation protection concerns associated with normal operations and the means used by the licensee to control the access to areas of potential radiation exposure. With the advent of as low as is reasonably achievable objectives and environmental radiation protection standards promulgated by the Environmental Protection Agency in 40 CFR Part 190, the term "unrestricted" used in 10 CFR Part 20 is too narrow in meaning for applications to areas beyond the boundaries of the licensee's property.

The current terminology used in 10 CFR Part 100, specifically 'exclusion area' and 'low population zone', is applicable to postulated radiological consequences to individuals beyond the site boundary from potential accidents in test and power reactors. Its applicability is limited to specific types of nuclear reactors, not other nuclear installations, and to well-defined reference dose guidelines and risks associated with such nuclear reactors. The terminology used in 10 CFR Part 100 is too restrictive in meaning for use at multi-purpose sites and was never intended to be used for other than reactor sites. The use of these terms from 10 CFR Part 100 for an ISFSI is inappropriate.

Furthermore, the "Report of the Siting Policy Task Force," NUREG-0625, has recommended several changes in the basic criteria of 10 CFR Part 100. Therefore using the current terminology of 10 CFR Part 100 in 10 CFR Part 72 is not appropriate due to the potential changes that may be made in Part 100. For example, it is proposed to change the term (and definition) of "low population zone" to "emergency planning zone" (EPZ). This terminology was used in the proposed revision of Appendix E (now titled "Emergency Planning and Preparedness for Production and Utilization Facilities") to 10 CFR Part 50, that was published for comment on December 19, 1979. Consistent with this proposed revision, the term "neighboring area" in 10 CFR Part 72 has been changed to "ISFSI Emergency Planning Zone" (ISFSI-EPZ) because these are comparable in concept. The size of an ISFSI-EPZ is expected to be much smaller than that of a reactor EPZ.

20. Criteria for Establishing the Controlled Area, Neighboring Area,[1/] and Region as Applied to the Site of an ISFSI

[1/] The term "neighboring area" has been changed to "ISFSI-EPZ."

A number of commenters expressed the need for criteria for establishing the controlled area, the neighboring area and the region for an ISFSI as these terms are used in Part 72 and noted that there was a potential conflict of terms in the proposed rule. In response to these comments, more definitive criteria have been incorporated in the pertinent sections of the rule and clarifying changes in the text and definitions have been made.

Another concern with the implementation of these defined areas for an ISFSI is the possible conflict in terminology for an ISFSI located on the same site with a nuclear power reactor licensed under 10 CFR Parts 50 and 100 requirements.

Part of this concern appears due to a misunderstanding and the impression that the controlled area for an ISFSI is the same as the exclusion area for a reactor and that the neighboring area (since changed to ISFSI-EPZ) for an ISFSI is the same as the low population zone for a reactor. In concept, these areas are similar but the bases for their establishment are different. The controlled area for an ISFSI is not the same as the exclusion area for a reactor because the design basis accidents are different. Reactor accidents involve a potential release of radioactive materials, including short-lived species such as ^{131}I. Design basis accidents of concern at an ISFSI primarily involve direct radiation from exposure to the spent fuel rather than releases of radioactive materials. The areas requiring control or protective action measures for the protection of the public are quite different and hence using different terminology for each avoids confusion.

The four site-related terms and their definitions, i.e., site, controlled area, neighboring area (now ISFSI-EPZ), and region, establish

each of the geographical areas and the interrelationship that would exist between these areas and the need to protect public health and safety and the environment. The site means the real property on which the ISFSI is located. The controlled area, which may or may not be the same as the site, has the purpose of defining licensee control for meeting regulatory licensing requirements. The controlled area, in most cases, will be enclosed by some physical barrier such as a fence, to provide the needed control of activities within the area. Beyond the controlled area, the licensee does not necessarily exercise authority over activities.

The ISFSI-Emergency Planning Zone (ISFSI-EPZ) is that area in the immediate vicinity of an ISFSI upon which local and State governments should base their radiological response plans. The requirement to define a neighboring area in the proposed 10 CFR Part 72, in which State and local governments could take protective action in the event of an emergency is comparable in concept to the emergency planning zones for reactors. The term ISFSI-EPZ has been adopted to differentiate this zone and its requirements from those of an EPZ for a reactor.

The regions around an ISFSI site will vary in geographical area and location depending upon the event being evaluated to determine its impact on the ISFSI. A region has the purpose of defining the area within which such an event can have an impact on the public health and safety or environment. This impact must be assessed from the consequences postulated for the events evaluated.

21. Dose Limits for Normal Operations and Accidents

A number of commenters addressed the subject of dose limits for normal operations and accidents. Although spent fuel storage is not specifically identified as a fuel cycle operation in 40 CFR Part 190,

"Environmental Radiation Protection Standards for Nuclear Power Operations," the dose limits specified in this regulation are used in Part 72. Section 72.67 was rewritten to better clarify the requirements on effluents and direct radiation during normal operations and anticipated occurrences.

The accident dose limit of 5 Rem was placed in a new §72.68, that defines the criteria for establishing a controlled area for an ISFSI. The 2-hour criterion was deleted; the controlling design basis accident for the specific ISFSI covered in the application is to be evaluated. The 5 rem cumulative exposure limit is derived from protective actions recommended by EPA for projected doses to populations for planning purposes.[2/]

The reference to 24 hours in paragraph 72.15(a)(13) was deleted; the requirements for the accident analysis section of the SAR were changed to call for the evaluation of a dose commitment due to the event that would take into account the total dose from a single exposure as well as dose reduction due to protective action.

In response to comments on the applicability of Appendix I to 10 CFR Part 50 and Part 100 to an ISFSI, Appendix I is applicable only to light water cooled power reactors and Part 100 is applicable only to power and test reactors. Neither of these regulations is applicable to an ISFSI.

22. Geological and Seismological Investigations

In the proposed rule, the geological and seismological investigation requirements for an ISFSI site were based on the reasoning that it should be possible to select sould sites for the few ISFSIs expected to be built. Seismologically, a sounc site was considered one having potential ground

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2/ EPA 520/1-75-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," September, 1975.

motion of less than 0.25 g from earthquake with a return period of 500 years. This earthquake potential could be determined on a probabilistic basis; i.e., read from seismic zonation maps such as those published by the U.S. Geological Survey.[3/] Uncertainties in such determinations could be offset by overdesign.

This use of probabilistic techniques was considered appropriate as a site selection criterion; it was not intended to be used for determining the design earthquake for structures. Assuming a sound site as defined above, the use of a standard design earthquake of 0.25 g (which has a return period that is much greater than 500 years) was considered conservative and adequate to offset uncertainties in an evaluation of a specific site on a probabilistic basis.

However, it was not possible to obtain a consensus among experts in the field on this approach. It was generally agreed that probabilistics techniques are adequate to determine potential seismicity on a regional basis, but these techniques are not yet adequately developed for application to a specific site.

As an alternative, the proposed rule allowed a site specific "g" value to be determined by the procedures of Appendix A to Part 100, "Seismic and Geologic Siting Criteria for Nuclear Power Plants." This provision was in Subpart E, "Siting Criteria," and was intended for use in the evaluation of site characteristics, such as potential soil liquefaction, under earthquake conditions in areas of low potential seismic activity where the use of the standard design earthquake of 0.25 g was considered to be unduly restrictive.

[3/] Such as algermissen and Perkins, USGS, Open File Report 76-416, 1976, "A Probabilistic Estimate of Maximum Acceleration in Rock in the Contiguous United States."

The final rule makes a differentiation between the regions east and west of the Rocky Mountain Front, approximately 104° west longitude, and in the east makes a further differentiation between areas of low seismic potential and areas of known seismic potential, including, but not limited to, New Madrid, Mo.; Charleston, S.C.; and Attica N.Y.

In areas of low seismic potential in the eastern United States, a proposed site will be considered acceptable if the results from onsite foundation and geological investigation, literature review, and regional geological reconnaissance show no unstable geological characteristics, soil stability problems, or potential for vibratory ground motion at the site in excess of an appropriate response spectrum anchored at 0.2 g. Unstable geological characteristics are defined as capable faults, surface offset potential, subsidence or collapse features, uplift or downwarp, active tectonism, or landslide or mudflow potential. In the western United States and in regions of known seismic potential in the eastern United States, the seismicity at a proposed site must be evaluated by the criteria and level of investigations of Appendix A of 10 CFR Part 100, "Seismic and Geologic Siting Criteria for Nuclear Power Plants."

The conservatism reflected both in the use of a standard design earthquake of 0.25 g for the design of structures at sites in areas of low seismic potential or the alternative of developing a site specific design earthquake by the very thorough investigation required by Appendix A of Part 100 is considered necessary and appropriate for the protection of an ISFSI which could contain a large inventory of spent fuel. The Commission is considering a revision of Appendix A to Part 100. However, it is anticipated that such revision would be in the nature of a clarification of its requirements and that the rule would still be applicable to ISFSI siting.

The principle of selecting sound sites has been retained in the final rule. For example, floodplains and sites that lie within the range of strong nearfield ground motion from earthquakes on larger capable faults should be avoided. This principle is consistent with the recommendations in the "Report of the Siting Policy Task Force," NUREG-0625.

23. The ISFSI Design Earthquake (ISFSI-DE)

The standardized ISFSI-DE of 0.25 g for massive structures, such as water basins, has been retained in the final rule for use at sites east of the Rocky Mountain Front that are in areas of low potential seismic activity and hence do not need to be evaluated by the criteria and level of investigations of Appendix A of 10 CFR Part 100.

For sites west of the Rocky Mountain Front and in regions in the eastern United States of known seismic activity, the ISFSI-DE must be determined using the level of investigations and the criteria of Appendix A of 10 CFR Part 100, including the requirement that it be no less than 0.10 g.

For an ISFSI that is located on a power plant site which has been evaluated by the criteria and level of investigations of Appendix A of 10 CFR Part 100, the ISFSI-DE for structures shall be equivalent to the safe shutdown earthquake (SSE) for a nuclear power plant.

For ISFSI's which do not involve massive structures, such as dry storage casks and cannisters, the required design earthquake will be determined on a case-by-case basis until more experience is gained with the licensing of these types of units.

24. Probability Basis Used for Other Natural Phenomena

Some commenters wanted to go one step further and use a probabilistic basis for other natural phenomena such as tornadoes and floods. It has been common practice in the United States to use probable maximum events

as design bases for radiological safety-related structures, systems, and components. When a frequency or probabilistic analysis of historical data is used to estimate such a low probability event, there is generally too much uncertainty to make the estimate useful for design purposes. Therefore, the probable maximum flood, for example, is estimated using deterministic hydrologic models which utilize meteorological input that approaches the upper limit possible for that location, taking into account existing climate and time of year.

25. Prequalification of Reactor Sites and Their Population Distributions

Some commenters recommended that reactor sites be prequalified with no site specific investigations required for an at-reactor siting of an ISFSI. A site that has been approved for a Part 50 facility, in general, is likely to be acceptable for an ISFSI. However, the pre-qualification of sites licensed under Part 50 without review in relation to the proposed design of the ISFSI does not seem prudent. Information on a specific site that has been submitted to the NRC in connection with other licensing actions need not be repeated in a Part 72 license application. It can be incorporated by specific references to previous submissions.

26. Transportation Considerations

A number of commenters considered that the transportation involved in spent fuel shipments to an ISFSI could be an important consideration in an evaluation of site suitability. This might be particularly true of a large installation. The Commission agrees and a new §72.70 has been added to the rule to specifically address this point.

27. Missile Protection

Part 72 requires protection from natural phenomena with the exception of tornado missiles. Tornado missile protection at reactors is of concern because rupture of recently discharged fuel at a reactor could cause the potential release of volatile short-lived radionuclides, particularly ^{131}I. Since the quantity of ^{131}I present in aged fuel at an ISFSI is reduced by a factor of 10^9 due to radioactive decay in the first year after discharge, the potential risk from the rupture of aged fuel is orders of magnitude lower for an ^{131}I release. The radionuclides which could potentially be released as a result of a tornado missile event are long-lived ^{85}Kr and ^{129}I. However, an accident evaluation in NUREG-0575,[5/] Section 4.2.3.2, using conservative assumptions demonstrates that the consequences from the release of the nuclides attributable to a tonado missile would not be significant. Hence, a requirement for protection from tornado missiles does not appear to be justified.

28. Criticality

A number of commenters expressed concern over the prospect of a criticality in an ISFSI.

Criticality has been a subject of study and experiment in the nuclear industry and has received much attention among nuclear engineers. The technology used in evaluating a given design for criticality potential is now highly developed with sophisticated computer codes. These codes have been bench-marked by actual measurements in various kinds of lattices and configurations of critical arrays of fuel elements. Because spent

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[5/] Final Generic Environmental Impact Statement on Handling and Storage of Spent Light Water Reactor Fuel, August 1979.

fuel storage racks are designed with a large safety factor to prevent criticality, the possibility of a significant criticality in ISFSI is very remote.

29. Application of ALARA to Occupational Exposures

Some commenters objected to the application of the ALARA principle to the design of a facility as this might affect occupational exposures. These objections were based on two points:

(1) The thought that ALARA applied only to public health and safety, and

(2) Occupational exposures are controlled by administrative procedures.

In response, the ALARA concept does apply to occupational health protection as specified in 10 CFR Section 20.1(c). Furthermore, although it is recognized that occupational exposures can be controlled to some extent by administrative procedures, design provisions such as adequate shielding of sources and proper equipment layout to minimize exposures are also important factors in keeping occupational exposures to a minimum. It is often impossible to fully compensate for a poor design using administrative procedures. ALARA (and its predecessor ALAP) has been a cornerstone of radiation protection for many years and it has always been considered to apply to all types of exposure, occupational and public.

30. Broadened Applicability of Quality Assurance Program

Some commenters took objection to what they interpreted as a broadening of the QA program, e.g., coverage of operations and the physical security system. It is the Commission's view that a licensee's QA program must cover not only design and construction, but all activities that are important to safety throughout the life of a facility.

31. Certification versus Licensing of Operating Personnel

The safety of an ISFSI is achieved by static means, primarily its configuration. Its safety is not dependent on dynamic reactions to the manipulation of controls like a reactor. It is necessary that operating personnel be adequately trained but not necessarily licensed by the NRC. A certification by the licensee of an individual's proficiency to operate equipment is considered adequate.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following new Part 72 and related conforming amendments of Parts 51, 70, 73 and 150 to Chapter I of Title 10, of the Code of Federal Regulations are published as a document subject to codification.

1. A new 10 CFR Part 72 is added to read as follows:

PART 72 LICENSING REQUIREMENTS FOR THE STORAGE OF SPENT FUEL IN AN INDEPENDENT SPENT FUEL STORAGE INSTALLATION (ISFSI)

Subpart A - General Provisions

Sec.

Subpart B - License Application, Form, and Contents

Subpart C - Issuance And Conditions of Licenses

Subpart D - Records, Reports, Inspections and Enforcement

Subpart E - Siting Evaluation Factors

Subpart F - General Design Criteria

Subpart G - Quality Assurance

Subpart H - Physical Protection

Subpart I - Training And Certification of ISFSI Personnel

Authority

The provisions of this Part 72 are issued under the Atomic Energy Act of 1954, as amended, secs. 51, 53 as amended, 57 as amended, 62, 63, 65, 69, 81 as amended, 161b, h, i, o, 182a as amended, 183 as amended, 184 as amended, 186, 187, Pub. L. 83-703, 68 Stat. 929, 930 as amended by 71 Stat. 576, 72 Stat. 632 and 79 Stat. 602, 932 as amended by 78 Stat. 605 and 88 Stat. 475, 933, 934, 935 as amended by 88 Stat. 475 and 92 Stat. 3039, 948, 953 as amended by 70 Stat. 1069, 954 as amended by 78 Stat. 602, 955 (42 U.S.C. 2071, 2073, 2077, 2092, 2093, 2095, 2099, 2111, 2201(b), (h), (i), (o), 2232, 2233, 2234, 2236, 2237); sec. 234, Pub. L. 91-161, 83 Stat. 444 (42 U.S.C. 2282); sec. 274c, as amended, Pub. L. 86-273, 73 Stat. 688 as amended by Pub. L. 95-604, 92 Stat. 3036 (42 U.S.C. 2021(c)); under sec. 102(2)(C) of the National Environmental Policy Act of 1969, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332) and under the Energy Reorganization Act of 1974, as amended, sec. 201, as amended, 202, and 206, Pub. L. 93-438, 88 Stat. 1242, as amended by 89 Stat. 413, 1243, 1246 (42 U.S.C. 5841, 5842, 5846).

Subpart A - General Provisions

§ 72.1 Purpose.

The regulations in this part establish requirements, procedures, and criteria for the issuance of licenses to possess power reactor spent fuel and other radioactive materials associated with spent fuel storage, in an independent spent fuel storage installation (ISFSI), and the terms and conditions under which the Commission will issue such licenses.

§ 72.2 Scope.

(a) Licenses issued under this Part are limited to the possession of power reactor spent fuel to be stored in a complex that is designed and constructed specifically for the temporary storage of power reactor spent fuel aged for at least one year, and to the possession of other radioactive materials associated with spent fuel storage.

(b) The regulations in this part apply to all persons in the United States, including persons in Agreement States.

(c) The requirements of this regulation are applicable, as appropriate, to both wet and dry modes of storage of spent fuel.

(d) Licenses covering the storage of spent fuel in an existing spent fuel storage facility shall be issued in accordance with the requirements of this part as stated in §72.31.

§ 72.3 Definitions.

As used in this part:

(a) "Act" means the Atomic Energy Act of 1954 (68 Stat. 919) including any amendments thereto.

(b) "As low as is reasonably achievable" means as low as is reasonably achievable taking into account the state of technology, and the

economics of improvements in relation to (1) benefits to the public health and safety, (2) other societal and socioeconomic considerations, and (3) the utilization of atomic energy in the public interest.

(c) "Atomic energy" means all forms of energy released in the course of nuclear fission or nuclear transformation.

(d) "Byproduct material" means any radioactive material (except special nuclear material) yielded in, or made radioactive by exposure to, the radiation incident to the process of producing or utilizing special nuclear material.

(e) "Commission" means the Nuclear Regulatory Commission or its duly authorized representatives.

(f) "Commencement of construction" means any clearing of land, excavation, or other substantial action that would adversely affect the natural environment of a site, but does not mean:

(1) Changes desirable for the temporary use of the land for public recreational uses, necessary borings or excavations to determine subsurface materials and foundation conditions, or other preconstruction monitoring to establish background information related to the suitability of the site or to the protection of environmental values;

(2) Construction of environmental monitoring facilities;

(3) Procurement or manufacture of components of the installation; or

(4) Construction of means of access to the site.

(g) "Confinement systems" means those systems, including ventilation, that act as barriers between areas containing radioactive substances and the environment.

(h) "Controlled area" means that area immediately surrounding an ISFSI for which the licensee exercises authority over its use and within which ISFSI operations are performed.

(i) "Design bases" means that information that identifies the specific functions to be performed by a structure, system, or component of a facility and the specific values or ranges of values chosen for controlling parameters as reference bounds for design. These values may be restraints derived from generally accepted "state-of-the-art" practices for achieving functional goals or requirements derived from analysis (based on calculation or experiments) of the effects of a postulated event under which a structure, system, or component must meet its functional goals. The values for controlling parameters for external events include: (1) estimates of severe natural events to be used for deriving design bases that will be based on consideration of historical data on the associated parameters, physical data, or analysis of upper limits of the physical processes involved and (2) estimates of severe external man-induced events to be used for deriving design bases that will be based on analysis of human activity in the region taking into account the site characteristics and the risks associated with the event.

(j) "Design capacity" means the quantity in metric tons of spent fuel, its maximum burnup in MWD/MTU, and the total heat generation in Btu per hour that an ISFSI is designed to accommodate.

(k) "Floodplain" means the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands. Areas subject to a one percent or greater chance of flooding in any given year are included.

(l) "Historical data" means a compilation of the available published and unpublished information concerning a particular type of event.

(m) "Independent spent fuel storage installation" (ISFSI) means a complex designed and constructed for the storage of spent fuel and other radioactive materials associated with spent fuel storage. Independent means that an ISFSI may be located away from or on the same site with another facility licensed under the Commission's regulations, without being physically coupled to another facility. Hower, its being independent this does not preclude the use of utilities and services of another facility.

(n) "ISFSI-emergency planning zone" (ISFSI-EPZ) means that area in the vicinity of an ISFSI within which protective action measures may be needed in the event of an accident at an ISFSI.

(o) "NEPA" means the National Environmental Policy Act of 1969 including any amendments thereto.

(p) "Person" means (1) any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Nuclear Regulatory Commission or the Department of Energy (DOE), except that the DOE shall be considered a person within the meaning of the regulations in this part to the extent that its facilities and activities are subject to the licensing and related regulatory authority of the Commission pursuant to Section 202 of the Energy Reorganization Act of 1974 (88 Stat. 1244); (2) any State; any political subdivision of a state, or any political entity within a State, (3) any foreign government or nation, or any political subdivision of any such government or nation, or other entity; and (4) any legal successor, representative, agent, or agency of the foregoing.

(q) "Population" means the people that may be affected by the change in environmental conditions due to the construction, operation, or decommissioning of an ISFSI.

(r) "Region" means the geographical area surrounding and including the site, which is large enough to contain (1) all the features related to a phenomenon or to a particular event that could potentially impact the safety of the ISFSI and (2) all measurable effects of environmental impact, both radiological and nonradiological, that are due to the construction, operation or decommissioning of an ISFSI.

(s) "Site" means the real property on which the ISFSI is located.

(t) "Source material" means (1) uranium or thorium, or any combination thereof, in any physical or chemical form or (2) ores that contain by weight one-twentieth of one percent (0.05%) or more of (i) uranium, (ii) thorium, or (iii) any combination thereof. Source material does not include special nuclear material.

(u) "Special nuclear material" means (1) plutonium, uranium 233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of section 51 of the Act, determines to be special nuclear material, but does not include source material; or (2) any material artificially enriched by any of the foregoing but does not include source material.

(v) "Spent fuel" as used in this Part means irradiated nuclear fuel that has undergone at least one year's decay since being used as a source of energy in a power reactor. Spent fuel includes the special nuclear material, byproduct material, source material, and other radioactive materials associated with fuel assemblies.

(w) "Structures, systems, and components important to safety" means those features of the ISFSI whose function is (1) to maintain the conditions required to store spent fuel safely, (2) to prevent damage to the spent fuel during handling and storage, or (3) to protect plant personnel and the public from exposure to radiation in excess of objectives for levels as low as is reasonably achievable.

(x) "Temporary storage" means the interim storage, protection, and safeguarding of spent fuel and radioactive materials associated with spent fuel storage, for a limited time only, pending its ultimate disposal.

§ 72.4 Communications.

Except where otherwise specified, all communications and reports concerning the regulations in this Part and applications filed under them should be addressed to The Nuclear Regulatory Commission, Office of Nuclear Materials Safety and Safeguards, Division of Fuel Cycle and Material Safety, Washington, D.C. 20555. Communications, reports, and applications may be delivered in person at the Commission's Offices at 7915 Eastern Avenue, Silver Spring, Maryland, or at 1717 H Street, N.W., Washington, D.C.

§ 72.5 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission, other than a written interpretation by the General Counsel, will be recognized to be binding upon the Commission.

§ 72.6 License Required; Types of Licenses.

(a) Licenses for spent fuel are of two types: general and specific. Any general license provided in this part is effective without the filing of applications with the Commission or the issuance of licensing documents to particular persons. Specific licenses are issued to named persons upon applications filed pursuant to the regulations in this part.

(b) A general license is hereby issued to receive title to and own spent fuel without regard to quantity.

(c) No person may acquire, receive, or possess spent fuel or radioactive material associated with spent fuel for the purpose of storage in an independent spent fuel storage installation except as authorized in a specific license issued by the Commission in accordance with the regulations in this part.

§ 72.7 Specific Exemptions.

The Commission may, upon application by any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this Part as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest.

§ 72.8 Denial of Licensing by Agreement States.

Agreement States may not issue licenses covering the storage of spent fuel in an ISFSI.

Subpart B - License Application, Form, Contents

§ 72.11 Filing of Applications for Specific Licenses; Oath or Affirmation.

(a) Place of filing. Each application for a license, or amendment thereof, under this Part should be filed with the Director, Division

of Fuel Cycle and Material Safety, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

Applications, communications, reports and correspondence may also be delivered in person at the Commission's offices at 7915 Eastern Avenue, Silver Spring, Maryland, or at 1717 H Street, NW., Washington, D.C.

(b) Oath or affirmation. Each application for a license or license amendment (including amendments to such applications) shall be executed in an original signed by the applicant or duly authorized officer thereof under oath or affirmation.

(c) Number of copies of applications. Each filing of an application for a license or license amendment under this Part (including amendments to such applications) shall include, in addition to the signed originals, the documents listed in §72.21.

(d) Fees. The application, amendment, and renewal fees applicable to a license covering the storage of spent fuel in an ISFSI are those shown in § 170.31 of this chapter.

§ 72.12 Elimination of Repetition.

In any application under this part, the applicant may incorporate by reference information contained in previous applications, statements, or reports filed with the Commission: Provided, that such references are clear and specific.

§ 72.13 Public Inspection of Applications.

Applications and documents submitted to the Commission in connection with applications may be made available for public inspection in accordance with provisions of the regulations contained in Part 2 and Part 9 of this chapter.

§ 72.14 Contents of Application: General and Financial Information.

Each application shall state:

(a) Full name of applicant;

(b) Address of applicant;

(c) Description of business or occupation of applicant;

(d) If applicant is:

(1) an individual: citizenship and age.

(2) a partnership: name, citizenship, and address of each partner and the principal location at which the partnership does business;

(3) a corporation or an unincorporated association:

(i) the State in which it is incorporated or organized and the principal location at which it does business; and

(ii) the names, addresses, and citizenship of its directors and principal officers; or

(4) acting as an agent or representative of another person in filing the application: the identification of the principal and the information required under this paragraph with respect to such principal.

(e) Information sufficient to demonstrate to the Commission the financial qualifications of the applicant to carry out, in accordance with the regulations in this chapter, the activities for which the license is sought. This information shall state the place at which the activity is to be performed, the general plan for carrying out the activity, and the period of time for which the license is requested. The information shall show that the applicant either possesses the necessary funds, or that the applicant has reasonable assurance of obtaining the necessary funds; or that by a combination of the two, the applicant will have the necessary funds available to cover the following:

(1) Estimated construction costs;

(2) Estimated operating costs over the planned life of the ISFSI complex; and

(3) Estimated shutdown and decommissioning costs, and the necessary financial arrangements to provide reasonable assurance prior to licensing that shutdown, decontamination, and decommissioning will be carried out after the removal of spent fuel from storage.

§ 72.15 Contents of Application: Technical Information.

(a) Each application for a license under this part shall include a Safety Analysis Report describing the proposed ISFSI for the storage of spent fuel, including how the ISFSI will be operated. The minimum information to be included in this report shall consist of the following:

(1) A description and safety assessment of the site on which the ISFSI is to be located, with appropriate attention to the design bases for external events. Such assessment shall contain an analysis and evaluation of the major structures, systems, and components of the ISFSI that bear on the suitability of the site when the ISFSI is operated at its design capacity. If the proposed ISFSI is to be located on the site of a nuclear power plant or other licensed facility, the potential interactions between the ISFSI and such other facility shall be evaluated.

(2) A description and discussion of the ISFSI structures with special attention to design and operating characteristics, unusual or novel design features, and principal safety considerations.

(3) The design of the ISFSI in sufficient detail to support the findings in §72.31, including:

(i) The design criteria for the ISFSI pursuant to Subpart F of this Part, with identification and justification for any additions to or departures from the general design criteria;

(ii) The design bases and the relation of the design bases to the design criteria;

(iii) Information relative to materials of construction, general arrangement, dimensions of principal structures, and descriptions of all structures, systems, and components important to safety, in sufficient detail to support a finding that the ISFSI will satisfy the design bases with an adequate margin for safety; and

(iv) Applicable codes and standards.

(4) An analysis and evaluation of the design and performance of structures, systems, and components important to safety, with the objective of assessing the impact on public health and safety resulting from operation of the ISFSI and including determination of:

(i) the margins of safety during normal operations and expected operational occurrences during the life of the ISFSI; and

(ii) the adequacy of structures, systems, and components provided for the prevention of accidents and the mitigation of the consequences of accidents, including natural and man-made phenomena and events.

(5) The means for controlling and limiting occupational radiation exposures within the limits given in Part 20 of this chapter, and for meeting the objective of exposures as low as is reasonably achievable.

(6) The features of ISFSI design and operating modes to maintain low waste volumes.

(7) An identification and justification for the selection of those subjects that will be probable license conditions and technical specifications.

Such subjects shall cover the design, construction, operation, and decommissioning of the ISFSI.

(8) A plan for the conduct of operations, including the planned managerial and administrative controls system, and the applicant's organization, and program for the training of personnel pursuant to Subpart I of this Part.

(9) If the proposed ISFSI incorporates structures, systems, or components important to safety whose functional adequacy or reliability have not been demonstrated by prior use for that purpose or cannot be demonstrated by reference to performance data in related applications or to widely accepted engineering principles -- and identification of such structures, systems, or components along with a schedule showing how such safety questions will be resolved prior to the initial receipt of spent fuel for storage at the ISFSI.

(10) The technical qualifications of the applicant to engage in the proposed activities, as required by § 72.17 of this Part.

(11) A description of the applicant's plans for coping with emergencies, as required by § 72.19 of this part.

(12) A description of the equipment to be installed to maintain control over radioactive materials in gaseous and liquid effluents produced during normal operations and expected operational occurrences. The description shall identify the design objectives and the means to be used for keeping levels of radioactive material in effluents to the environment as low as is reasonably achievable and within the exposure limits stated in § 72.67 of this part. The description shall include:

(i) An estimate of the quantity of each of the principal radionuclides expected to be released annually to the environment in liquid and

gaseous effluents produced during normal ISFSI operations; and prior to the first receipt of spent fuel, a second estimate confirming the original estimate or, if the expected releases and exposures are significantly different from the original estimate.

(ii) A description of the equipment and processes used in radioactive waste systems;

(iii) A general description of the provisions for packaging, storage, and disposal of solid wastes containing radioactive materials resulting from treatment of gaseous and liquid effluents and from other sources.

(13) An analysis of the potential dose or dose commitment to an individual outside the controlled area from accidents or natural phenomena events that result in the release of radioactive material to the environment or direct radiation from the ISFSI. The calculations of individual dose or dose commitment shall be performed for direct exposure, inhalation, and ingestion occurring as a result of the postulated design basis event.

(14) A description of the quality assurance program to be applied to the design, fabrication, construction, testing, and operation of the structures, systems, and components of the ISFSI important to safety, as required by § 72.80. The description of the quality assurance program shall identify structures, systems and components important to safety and shall show how the criteria in Appendix B to Part 50 of this chapter will be applied to those safety-related components, systems, and structures in a manner consistent with their importance to safety.

(15) A description of the detailed security measures for physical protection, including design features and the plans required by Subpart H of this Part.

(16) A description of the program covering preoperational testing and initial operations.

(17) A description of the decommissioning plan required under § 72.18 of this Part.

§ 72.16 Contents of Application: Technical Specifications

Each application under this Part shall include proposed technical specifications in accordance with the requirements of § 72.33 and a summary statement of the bases and justifications for these technical specifications.

§ 72.17 Contents of Application: Applicant's Technical Qualifications.

Each application under this Part shall include:

(a) The technical qualifications, including training and experience, of the applicant to engage in the proposed activities.

(b) A description of the personnel training program required under Subpart I of this Part.

(c) A description of the applicants' operating organization, delegations of responsibility and authority, and the minimum skills and experience qualifications relevant to the various levels of responsibility and authority.

(d) A commitment by the applicant to have and maintain an adequate complement of trained and certified plant personnel prior to the receipt of spent fuel for storage.

§ 72.18 Decommissioning Plan, Including Financing.

(a) Each application under this part shall include a proposed decommissioning plan that contains sufficient information on proposed practices

and procedures for the decontamination of the site and facilities and for disposal of residual radioactive materials after all spent fuel has been removed, in order to provide reasonable assurance that the decontamination and decommissioning of the ISFSI at the end of its useful life will provide adequate protection to the health and safety of the public. This plan shall identify and discuss those design features of the ISFSI that facilitate its decontamination and decommissioning at the end of its useful life.

(b) The decommissioning plan shall include the financial arrangements made by the applicant to provide reasonable assurance that the planned decontamination and decommissioning of the ISFSI will be carried out.

§ 72.19 Emergency Plan.

An application to store spent fuel in an ISFSI shall include plans for coping with emergencies. These plans shall contain the elements that are listed in Section IV, "Content of Emergency Plans," of Appendix E to Part 50 of this chapter.

§ 72.20 Environmental Report.

Each application for a license under this part shall be accompanied by an Environmental Report which meets the requirements of Part 51 of this chapter.

§ 72.21 Required Licensing Documents

Section	Document	No. of Copies	Signed Orignal
72.14	License Application	25	3
72.15	Safety Analysis Report[a/]	70	
72.18	Decommissioning Plan[a/]	25	
72.19	Emergency Plan[a/]	25	
72.20	Environmental Report[a/]	150	
72.35(b)	Report of ISFSI Design and Procedures Changes	25	3
72.36(b)	Application for Transfer of License	25	3
72.38	Application for Termination of License	25	3
72.39	Amendment to License	25	3
72.80	Quality Assurance Program[a/]	25	
72.81	Physical Security Plan[a/b/]	10	
72.82	Design for Physical Protection[a/b/]	10	
72.83	Safeguards Contingency Plan[a/b/]	10	
72.84	Changes to Physical Security and Contingency Plans	0	
72.92	Personnel Training Program[a/]	25	

a/Submitted with license application.
b/Physical protection plans will be withheld from public disclosure by the NRC.

Subpart C - Issuance and Conditions of Licenses

§ 72.31 Issuance of Licenses.

(a) Except as provided in paragraph (c) of this section, the Commission will issue a license under this Part upon a determination that the application for a license meets the standards and requirements of the Act and the regulations of the Commission, and upon finding that:

(1) The applicant's proposed ISFSI design complies with Subpart F of this part;

(2) The proposed site complies with the criteria in Subpart E of this Part;

(3) If on the site of a nuclear power plant or other licensed activity or facility, the proposed ISFSI would not pose an undue risk to the safe operation of such nuclear power plant or other licensed activity or facility.

(4) The applicant is qualified by reason of training and experience to conduct the operation covered by the regulations in this Part.

(5) The applicant's proposed operating procedures to protect health and to minimize danger to life or property are adequate.

(6) The applicant is financially qualified to engage in the proposed activities in accordance with the regulations in this Part.

(7) The applicant's quality assurance plan complies with Subpart G of this Part.

(8) The applicant's physical protection provisions comply with Subpart H of this Part.

(9) The applicant's personnel training program complies with Subpart I of this Part.

(10) The applicant's decommissioning plan and its financing pursuant to § 72.18 of this Part provide reasonable assurance that the decontamination and decommissioning of the ISFSI at the end of its useful life will provide adequate protection ot the health and safety of the public.

(11) The applicant's emergency plan complies with § 72.19 of this Part.

(12) The applicable provisions of Part 170 of this chapter have been satisfied; and

(13) There is reasonable assurance that (i) the activities authorized by the license can be conducted without endangering the health and safety of the public and (ii) such activities will be conducted in compliance with the applicable regulations of this Chapter.

(14) The issuance of the license will not be inimical to the common defense and security.

(b) Commencement of construction prior to the following conclusion or finding may be grounds for denial of a license to store spent fuel in the proposed ISFSI: the Director of the Office of Nuclear Materials Safety and Safeguards or his designee has concluded, or after a public hearing, the Presiding Officer, Atomic Safety and Licensing Board, or the Commission acting as a collegial body, as appropriate, has made the finding that on the basis of information filed and evaluations made pursuant to Part 51 of this chapter, and after weighing the environmental, economic, technical and other benefits against environmental costs and considering available alternatives, the action called for is the issuance of the proposed license with any appropriate conditions to protect environmental values.

(c) For a license covering the storage of spent fuel in an existing spent fuel storage facility, the criteria for site selection stated in Subpart E of this Part need not be met.

§ 72.32 Duration of License; Renewal.

(a) Each license issued under this Part shall be for a fixed period of time to be specified in the license but not to exceed 20 years from the date of issuance. Licenses may be renewed by the Commission at the expiration of that period upon application of the licensee.

(b) Applications for renewal of a license should be filed in accordance with the applicable provisions of Subpart B of this Part. Information contained in previous applications, statements, or reports filed with the Commission under the license may be incorporated by reference: Provided, that such references are clear and specific.

(c) In any case in which a licensee, not less than 30 days prior to expiration of his existing license, has filed an application in proper form for renewal of a license, such existing license shall not expire until a final decision concerning the application for renewal has been made by the Commission.

§ 72.33 License Conditions.

(a) Each license issued under this part shall include license conditions. The license conditions may be derived from the analyses and evaluations included in the safety analysis report and amendments thereto submitted pursuant to § 72.15 of this part. License conditions pertain to design, construction and operation. The Commission may also include such additional license conditions as it finds appropriate.

(b) Every license issued under this Part shall be subject to the following conditions, even if they are not explicitly stated therein:

(1) Neither the license nor any right thereunder shall be transferred, assigned, or disposed of in any manner, either voluntarily or involuntarily, directly or indirectly, through transfer of control of the license to any person, unless the Commission shall, after securing full information, find that the transfer is in accordance with the provisions of the Atomic Energy Act and give its consent in writing.

(2) The license shall be subject to revocation, suspension, modification, or amendment in accordance with the procedures provided by the Atomic Energy Act and Commission regulations.

(3) Upon request of the Commission, the licensee shall, at any time before expiration of the license, submit written statements, signed under oath or affirmation, to enable the Commission to determine whether or not the license should be modified, suspended, or revoked.

(4) Prior to the receipt of spent fuel for storage at an ISFSI, the licensee shall have in effect an NRC-approved program covering the training and certification of ISFSI personnel that meets the requirements of Subpart I of this Part.

(5) The licensee shall permit the operation of the safety-related equipment and controls of the ISFSI only by personnel whom the licensee has certified as being adequately trained to perform such operations, or by uncertified personnel who are under the direct visual supervision of a certified individual.

(c) Technical specifications submitted pursuant to § 72.16 of this Part shall include requirements in the following categories:

(1) Functional and operating limits and monitoring instruments and limiting control settings. (i) Functional and operating limits for an ISFSI are limits on fuel handling and storage conditions that are found

to be necessary to protect the integrity of the stored fuel, to protect employees against occupational exposures and to guard against the uncontrolled release of radioactive materials. (ii) Monitoring instruments and limiting control settings for an ISFSI are those related to fuel handling and storage conditions having significant safety functions.

(2) Limiting conditions. Limiting conditions are the lowest functional capability or performance levels of equipment required for safe operation.

(3) Surveillance requirements. Surveillance requirements include: (i) inspections of spent fuel in storage and monitoring; (ii) inspection, test and calibration activities to ensure that the necessary integrity of required systems, components and the spent fuel in storage is maintained; (iii) confirmation that operation of the ISFSI is within the required functional and operating limits; and (iv) a confirmation that the limiting conditions required for safe storage are met.

(4) Design features. Design features include items that would have a significant effect on safety if altered or modified, such as materials of construction and geometric arrangements.

(5) Administrative controls. Administrative controls include the organization and management procedures, recordkeeping, review and audit, and reporting necessary to assure that the operations involved in the storage of spent fuel in an ISFSI are performed in a safe manner.

(d) Each license authorizing the storage of spent fuels under this Part shall include technical specifications that, in addition to stating the limits on the release of radioactive materials for compliance with the limits of Part 20 of this chapter and the "as low as is reasonably achievable objectives" for effluents, require that:

(1) Operating procedures for control of effluents be established and followed, and equipment in the radioactive waste treatment systems be maintained and used, to meet the requirements of § 72.67 of this Part;

(2) An environmental monitoring program be established to ensure compliance with the technical specifications for effluents; and

(3) An annual report be submitted to the appropriate regional office specified in Appendix D of Part 20 of this Chapter, with a copy to the Director, Office of Nuclear Material Safety and Safeguards, within 60 days after January 1 of each year, specifying the quantity of each of the principal radionuclides released to the environment in liquid and in gaseous effluents during the previous 12 months of operation and such other information as may be required by the Commission to estimate maximum potential radiation dose commitment to the public resulting from effluent releases. On the basis of such reports and any additional information the Commission may obtain from the licensee or others, the Commission may from time to time require the licensee to take such action as the Commission deems appropriate.

(e) The licensee shall make no change that would decrease the effectiveness of the physical security plan prepared pursuant to § 72.81 of this Part without the prior approval of the Commission. A licensee desiring to make such a change shall submit an application for an amendment to the license pursuant to § 72.39 of this Part. A licensee may make changes to the physical security plan without prior Commission approval, provided that such changes do not decrease the effectiveness of the plan. The licensee shall furnish to the Commission a report containing a description of each change within two months after the change is made,

and shall maintain records of changes to the plan made without prior Commission approval for a period of two years from the date of the change.

(f) A licensee shall follow and maintain in effect an emergency plan that is approved by the Commission. The licensee may make changes to the approved plan without Commission approval only if such changes do not decrease the effectiveness of the plan, and if the plan, as changed, continues to contain the elements of Section IV of Appendix E of 10 CFR Part 50. Within six months after any such change is made, the licensee shall submit a report containing a description of any changes made in the plan to the appropriate NRC regional office specified in Appendix D to Part 20 of this chapter with a copy to the Director, Office of Nuclear Material Safety and Safeguards. Proposed changes that decrease the effectiveness of the approved emergency plan shall not be implemented unless the licensee has received prior approval of such changes from the Commission.

§72.34 Public Hearings.

(a) In connection with each application for a license or an amendment to a license under this Part, the Commission shall issue or cause to be issued a notice of hearing in accordance with § 2.104, or a notice of proposed action in accordance with § 2.105, of this chapter, as appropriate. Except as provided in paragraph (b) of this section, a hearing may not be held until after 30 days' notice and publication once in the FEDERAL REGISTER.

(b) In the absence of a request for hearing by any person whose interest may be affected, the Commission may issue a license or an amendment to a license without a hearing upon 30 days' notice and publication once in the FEDERAL REGISTER of its intent to do so. The Commission may dispense with such 30 days' notice and publication with respect to an

application for an amendment to a license issued under this Part upon a determination by the Commission that the amendment does not involve a significant hazards consideration or an unreviewed safety question.

§ 72.35 Changes, Tests and Experiments.

(a)(1) The holder of a license issued under this Part may, without prior Commission approval unless the proposed change, test or experiment involves a change in the license conditions incorporated in the license, an unreviewed safety question, significant increase in occupational exposure or a significant unreviewed environmental impact: (i) make changes in the ISFSI described in the Safety Analysis Report, (ii) make changes in the procedures described in the Safety Analysis Report, or (iii) conduct tests or experiments not described in the Safety Analysis Report.

(2) A proposed change, test, or experiment shall be deemed to involve an unreviewed safety question (i) if the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the Safety Analysis Report may be increased; (ii) if a possibility for an accident or malfunction of a different type than any evaluated previously in the Safety Analysis Report may be created; or (iii) if the margin of safety as defined in the basis for any technical specification is reduced.

(b)(1) The licensee shall maintain records of changes in the ISFSI and of changes in procedures made pursuant to this section if such changes constitute changes in the ISFSI or procedures described in the Safety Analysis Report. The licensee shall also maintain records of tests and experiments carried out pursuant to paragraph (a) of this section. These records shall include a written safety evaluation that provides the bases

for the determination that the change, test, or experiment does not involve an unreviewed safety question. The records of changes in the ISFSI and of changes in procedures and records of tests shall be maintained for the lifetime of the ISFSI.

(2) Annually, or at such shorter interval as may be specified in the license, the licensee shall furnish to the appropriate regional office, specified in Appendix D of Part 20 of this chapter, with a copy to the Director, Office of Nuclear Material and Safeguards, a report containing a brief description of such changes, tests, and experiments, including a summary of the safety evaluation of each. Any report submitted by a licensee pursuant to this paragraph will be made a part of the public record pertaining to this license.

(c) The holder of a license issued under this Part who desires (1) to change the license conditions, (2) to change the ISFSI or the procedures described in the Safety Analysis Report, or (3) to conduct tests or experiments not described in the Safety Analysis Report that involve an unreviewed safety question, a significant increase in occupational exposure, or significant unreviewed environmental impact, shall submit an application for amendment of the license,pursuant to § 72.39 of this Part.

§ 72.36 Transfer of Licenses.

(a) No license or any right included in a license issued under this Part shall be transferred, assigned, or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of the license to any person, unless the Commission gives its consent in writing.

(b)(1) An application for transfer of a license shall include as much of the information described in §§ 72.14 and 72.17 of this Part with respect to the identity and the technical and financial qualifications of the proposed transferee as would be required by those sections if the application were for an initial license. The application shall also include a statement of the purposes for which the transfer of the license is requested and the nature of the transaction necessitating or making desirable the transfer of the license.

(2) The Commission may require any person who submits an application for the transfer of a license pursuant to the provisions of this section to file a written consent from the existing licensee, or a certified copy of an order or judgment of a court of competent jurisdiction, attesting to the person's right - subject to the licensing requirements of the Act and these regulations - to possession of the spent fuel and the ISFSI involved.

(c) After appropriate notice to interested persons, including the existing licensee, and observance of such procedures as may be required by the Act or regulations or orders of the Commission, the Commission will approve an application for the transfer of a license, if the Commission determines:

(1) That the proposed transferee is qualified to be the holder of the license; and

(2) That transfer of the license is consistent with applicable provisions of the law, and the regulations and orders issued by the Commission pursuant thereto.

§ 72.37 Creditor Regulations.

(a) Pursuant to section 184 of the Act, the Commission consents, without individual application, to the creation of any mortgage, pledge, or other lien on special nuclear material contained in spent fuel not owned by the United States that is the subject of a license or on any interest in such special nuclear material in spent fuel: Provided:

(1) That the rights of any creditor so secured may be exercised only in compliance with and subject to the same requirements and restrictions as would apply to the licensee pursuant to the provisions of the license, the Atomic Energy Act of 1954, as amended, and regulations issued by the Commission pursuant to said Act; and

(2) That no creditor so secured may take possession of the spent fuel pursuant to the provisions of this section prior to either the issuance of a license from the Commission authorizing such possession or the transfer of the license.

(b) Any creditor so secured may apply for transfer of the license covering such spent fuel by filing an application for transfer of the license pursuant to § 72.36(b). The Commission will act upon such application pursuant to § 72.36(c).

(c) Nothing contained in this regulation shall be deemed to affect the means of acquiring, or the priority of, any tax lien or other lien provided by law.

(d) As used in this section, "creditor" includes, without implied limitation, the trustee under any mortgage, pledge, or lien on spent fuel in storage made to secure any creditor; any trustee or receiver of such spent fuel appointed by a court of competent jurisdiction in any action brought for the benefit of any creditor secured by such mortgage, pledge

or lien; any purchaser of such spent fuel at the sale thereof upon foreclosure of such mortgage, pledge, or lien or upon exercise of any power of sale contained therein; or any assignee of any such purchaser.

§ 72.38 Applications for Termination of Licenses

(a) The licensee shall apply to the Commission for authority to surrender a license voluntarily and to decommission the ISFSI and dispose of the materials stored therein. The Commission may require information, including information as to proposed procedures for the disposal of radioactive material and decontamination of the site, to determine whether there is reasonable assurance that the decommissioning and disposal will be performed in accordance with the regulations in this chapter and will not be inimical to the common defense and security or to the health and safety of the public.

(b) Upon a finding of reasonable assurance that the decommissioning of the ISFSI and disposal of the materials stored therein will be performed in accordance with the regulations in this chapter and will provide adequate protection to the health and safety of the public, and after notice to interested persons, the Commission will authorize such decommissioning and disposal and terminate the license upon completion of such procedures in accordance with any conditions specified in the authorization.

§ 72.39 Application for Amendment of License.

Whenever a holder of a license desires to amend the license, an application for an amendment shall be filed with the Commission fully describing the changes desired and the reasons for such changes, and following as far as applicable the form prescribed for original applications.

§ 72.40 Issuance of Amendment.

In determining whether an amendment to a license will be issued to the applicant, the Commission will be guided by the considerations that govern the issuance of initial licenses.

§ 72.41 Modification, Revocation, and Suspension of Licenses.

(a) The terms and conditions of all licenses are subject to amendment, revision, or modification by reason of amendments to the Atomic Energy Act of 1954, or by reason of rules, regulations, or orders issued in accordance with the Act or any amendments thereto.

(b) Any license may be modified, revoked, or suspended in whole or in part for any of the following: (i) for any material false statement in the application or in any statement of fact required under Section 182 of the Act; (ii) conditions revealed by such application or statement of fact or any report, record, inspection or other means which would warrant the Commission to refuse to grant a license on an original application; (iii) failure to operate an ISFSI in accordance with the terms of the license; (iv) violation of, or failure to observe any of, the terms and conditions of the Act, or of any applicable regulation, license, or order of the Commission.

(c) Upon revocation of a license, the Commission may immediately cause the retaking of possession of all special nuclear material contained in of spent fuel held by the licensee. In cases found by the Commission to be of extreme importance to the national defense and security or to the health and safety of the public, the Commission prior to following any of the procedures provided under sections 551-558 of title 5 of the United States Code, may cause the taking of possession of any special nuclear material contained in spent fuel held by the licensee.

§ 72.42 Backfitting.

(a) The Commission may require the backfitting of an ISFSI if it finds that such action will provide substantial additional protection to the environment, or occupational or public health and safety. As used in this section, "backfitting" means the addition, elimination, or modification of structures, systems, or components of an ISFSI after the license has been issued.

(b) The Commission may at any time require a holder of a license to submit such information concerning the backfitting or the proposed backfitting of the ISFSI as it deems appropriate.

72.50 Safety Analysis Report Updating

(a) The design, description of planned operations, and other information submitted in the Safety Analysis Report shall be updated by the licensee and submitted to the Commission at least once every six months after issuance of the license during final design and construction, until preopuational testing is completed, with final completion and submittal to the Commission at least 90 days prior to the planned receipt of spent fuel. This final submittal shall include a final analysis and evaluation of the design and performance of structures, systems, and components that are important to safety taking into account any pertinent information developed since the submittal of the license application. Changes affecting safety margins will require Commission approval prior to the receipt of spent fuel.

(b) After the first receipt of spent fuel for storage, the Safety Analysis Report shall be updated annually and submitted to the Commission by the licensee. This submittal shall include the following:

(1) New or revised information relating to applicable site evaluation factors, including the results of environmental monitoring programs.

(2) A description and analysis of changes in the structures, systems, and components of the ISFSI, with emphasis upon (i) performance requirements, (ii) the bases, with technical justification therefor, upon which such requirements have been established, and (iii) evaluations showing that safety functions will be accomplished.

Subpart D - Records, Reports, Inspections, and Enforcement

§ 72.51 Material Balance, Inventory, and Records Requirements for Stored Materials.

(a) Each licensee shall keep records showing the receipt, inventory (including location), disposal, acquisition, and transfer of all spent fuel in storage.

(b) Each licensee shall conduct a physical inventory of all spent fuel in storage at intervals not to exceed twelve months unless otherwise directed by the Commission.

(c) Each licensee shall establish, maintain, and follow written material control and accounting procedures that are sufficient to enable the licensee to account for the spent fuel in storage.

(d) Records of spent fuel in storage shall be kept in duplicate. The duplicate set of records shall be kept at a separate location sufficiently remote from the original records that a single event would not destroy both sets of records. Records of s t fuel transferred out of an ISFSI shall be preserved for a period of five years after the date of transfer.

§ 72.52 Reports of Accidental Criticality or Loss of Special Nuclear Material.

Each licensee shall report immediately to the appropriate NRC regional Office specified in Appendix D of Part 20 of this chapter by telephone and telegram or teletype, any case of accidental criticality and any loss of special nuclear material.

§ 72.53 Material Status Reports.

Each licensee shall complete and submit Material Status Reports to the Commission on Form NRC-742, in accordance with printed instructions for completing the form. The reports shall provide information concerning the special nuclear material contained in spent fuel possessed, received, transferred, disposed of, or lost by the licensee. All such reports shall be made as of March 31 and September 30 of each year and shall be filed with the U.S. Department of Energy, P.O. Box E, Oak Ridge, Tennessee 37830, within 30 days after the end of the period covered by the report. The Commission may, when good cause is shown,permit a licensee to submit Material Status Reports at other times.

§ 72.54 Nuclear Material Transfer Reports.

Whenever the licensee transfers or receives spent fuel, the licensee shall complete and distribute a Nuclear Material Transaction Report on Form NRC-741. Each licensee who transfers spent fuel shall submit a copy of Form NRC-741 to the U.S. Department of Energy, P.O. Box E, Oak Ridge, Tennessee 37830, and three copies to the receiver of the material promptly after the transfer takes place. Each licensee who receives spent fuel shall submit a copy of Form NRC-741 to the Department of Energy and to

the shipper of the material within 10 days after the spent fuel is received and unloaded and its identity is verified.

§ 72.55 Other Records and Reports.

(a) Each licensee shall maintain any records and make any reports that may be required by the conditions of the license or by the rules, regulations, and orders of the Commission in effectuating the purposes of the Act.

(b) Each licensee shall furnish a copy of its annual financial report, including the certified financial statements, to the Commission.

(c) Records that are required by the regulations in this part or by the license conditions shall be maintained for the period specified by the appropriate regulation or license condition. If a retention period is not otherwise specified, such records shall be maintained until the Commission authorizes their disposition.

(d) Any record that must be maintained pursuant to this Part may be either the original or a reproduced copy or microform provided that any reproduced copy or microform is duly authenticated by authorized personnel and that the microform is capable of producing a clear and legible copy after storage for the period specified by Commission regulations.

§ 72.56 Inspections and Tests.

(a) Each licensee under this part shall permit inspection by duly authorized representatives of the Commission of his records, premises, activities and of spent fuel in possession related to the specific license as may be necessary to effectuate the purposes of the Act, including Section 105 of the Act.

(b) Each licensee under this Part shall make available to the Commission for inspection, upon reasonable notice, records kept by the licensee pertaining to his receipt, possession, or transfer of spent fuel.

(c)(1) Each licensee under this Part shall upon request by the Director, Office of Inspection and Enforcement provide rent-free office space for the exclusive use of the Commission inspection personnel. Heat, air conditioning, light, electrical outlets and janitorial services shall be furnished by each licensee. The office shall be convenient to and have full access to the installation and shall provide the inspector both visual and acoustic privacy.

(2) For a site with a single storage installation the space provided shall be adequate to accommodate a full-time inspector, a part-time secretary and transient NRC personnel and will be generally commensurate with other office facilities at the site. A space of 250 sq. ft., either within the site's office complex or in an office trailer, or other on site space, is suggested as a guide. For sites containing multiple facilities additional space may be requested to accommodate additional full-time inspectors. The office space that is provided shall be subject to the approval of the Director, Office of Inspection and Enforcement. All furniture, supplies and Commission equipment shall be furnished by the Commission.

(3) Each licensee under this Part shall afford any NRC resident inspector assigned to that site, or other NRC inspectors identified by the Regional Director as likely to inspect the installation, immediate unfettered access, equivalent to access provided regular plant employees, following proper identification and compliance with applicable access

control measures for security, radiological protection and personal safety.

(d) Each licensee shall perform, or permit the Commission to perform, such tests as the Commission deems appropriate or necessary for the administration of the regulations in this part.

(e) A report of the preocupational test acceptance criteria and test results shall be submitted to the appropriate regional office specified in Appendix D of Part 20 of this chapter with a copy to the Director, Office of Nuclear Material Safety and Safeguards. At least 30 days prior to the receipt of spent fuel.

§ 72.57 Violation.

An injunction or other court order may be obtained prohibiting any violation of any provision of the Atomic Energy Act of 1954, as amended, or Title II of the Energy Reorganization Act of 1974, as amended, or any regulation or order issued thereunder. A court order may be obtained for the payment of a civil penalty imposed pursuant to section 234 of the Atomic Energy Act for violation of §§ 53, 57, 62, 63, 81, or 82 of the Atomic Energy Act, or section 206 of the Energy Reorganization Act of 1974, or any rule, regulation, or order issued thereunder, or any term, condition, or limitation of any license issued thereunder, or for any violation for which a license may be revoked under section 186 of the Atomic Energy Act. Any person who willfully violates any provision of the Atomic Energy Act, or any regulation or order issued thereunder, may be guilty of a crime and, upon conviction, may be punished by fine or imprisonment or both, as provided by law.

Subpart E - Siting Evaluation Factors

§ 72.61 General Considerations.

(a) Site characteristics that may directly affect the safety or environmental impact of the ISFSI shall be investigated and assessed.

(b) Proposed sites for the ISFSI shall be examined with respect to the frequency and the severity of external natural and man-induced events that could affect the safe operation of the ISFSI.

(c) Design basis external events shall be determined for each combination of proposed site and proposed ISFSI design.

(d) Proposed sites with design basis external events for which adequate protection cannot be provided through ISFSI design shall be deemed unsuitable for the location of the ISFSI.

(e) For each proposed site, pursuant to Part 51 of this chapter, the potential for radiological and other environmental impacts on the region shall be evaluated with due consideration of the characteristics of the population, including its distribution, and of the regional environs, including its historical and esthetic values.

(f) The facility shall be sited so as to avoid to the extent possible the long-term and short-term adverse impacts associated with the occupancy and modification of floodplains.

§ 72.62 Design Basis External Natural Events.

(a) Natural phenomena that may exist or that can occur in the region of a proposed site shall be identified and assessed according to their potential effects on the safe operation of the ISFSI. The important natural phenomena that affect the ISFSI design shall be identified.

(b) Records of the occurrence and severity of those important natural phenomena shall be collected for the region and evaluated for reliability, accuracy, and completeness.

(c) Appropriate methods shall be adopted for evaluating the design basis natural events based on the characteristics of the region and the current state of knowledge about such events.

§ 72.63 Design Basis External Man-Induced Events.

(a) The region shall be examined for both past and present man-made facilities and activities that might endanger the proposed ISFSI. The important potential man-induced events that affect the ISFSI design shall be identified.

(b) Information concerning the potential occurrence and severity of such events shall be collected and evaluated for reliability, accuracy, and completeness.

(c) Appropriate methods shall be adopted for evaluating the design basis external man-induced events, based on the current state of knowledge about such events.

§ 72.64 Identifying Regions Around an ISFSI Site

(a) The regional extent of external phenomena, man-made or natural, that are used as a basis for the design of the ISFSI shall be defined.

(b) The potential regional impact due to the construction, operation or decommissioning of the ISFSI shall be identified. The extent of such regional impacts shall be determined on the basis of potential measurable effects on the population or the environment, from ISFSI activities.

(c) Those regions identified pursuant to paragraphs (a) and (b) of this section shall be investigated as appropriate with respect to (i) the

present and future character and the distribution of population, (ii) consideration of present and projected future uses of land and water within the region, and (iii) any special characteristics that may influence the potential consequences of a release of radioactive material during the operational lifetime of the ISFSI.

(d) If the distribution of population in any defined region is such that adequate protective action cannot be provided through emergency planning the proposed site shall be unsuitable for the location of an ISFSI.

§ 72.65 Defining Potential Effects of the ISFSI on the Region.

(a) The proposed site shall be evaluated with respect to the effects on populations in the region resulting from the release of radioactive materials under normal and accident conditions during operation and decommissioning of the ISFSI; in this evaluation both usual and unusual regional and site characteristics shall be taken into account.

(b) Each site shall be evaluated with respect to the effects on the regional environment resulting from construction, operation and decommissioning of the ISFSI; in this evaluation both usual and unusual regional and site characteristics shall be taken into account.

§ 72.66 Geological and Seismological Characteristics.

(a) Massive Water Basin and Air-Cooled Canyon Types of ISFSI Structures:

(1) East of the Rocky Mountain Front (east of approximately 104° west longitude), except in areas of known seismic activity including but not limited to the regions around New Madrid, Mo., Charleston, S.C., and Attica, N.Y., sites will be acceptable if the results from onsite foundation and geological investigation, literature review, and regional

geological reconnaissance show no unstable geological characteristics, soil stability problems, or potential for vibratory ground motion at the site in excess of an appropriate response spectrum anchored at 0.2 g.

(2) West of the Rocky Mountain Front (west of approximately 104° west longitude), and in other areas of known potential seismic activity, seismicity will be evaluated by the techniques of Appendix A of Part 100 of this chapter. Sites that lie within the range of strong near-field ground motion from historical earthquakes on large capable faults should be avoided.

(3) Sites other than bedrock sites shall be evaluated for their liquefaction potential or other soil instability due to vibratory ground motion.

(4) Site-specific investigations and laboratory analyses must show that soil conditions are adequate for the proposed foundation loading.

(5) In an evaluation of alternative sites, those which require a minimum of engineered provisions to correct site deficiencies are preferred. Sites with unstable geologic characteristics should be avoided.

(6) The ISFSI design earthquake (ISFSI-DE) for use in the design of structures shall be determined as follows:

(a) For sites that have been evaluated under the criteria of Appendix A of 10 CFR Part 100, the ISFSI-DE shall be equivalent to the safe shutdown earthquake (SSE) for a nuclear power plant.

(b) For those sites that have not been evaluated under the criteria of Appendix A of 10 CFR Part 100, that are east of the Rocky Mountain Front, and that are not in areas of known seismic activity, a standardized ISFSI-DE described by an appropriate response spectrum anchored at 0.25 g may be used. Alternatively, a site-specific ISFSI-DE

may be determined by using the criteria and level of investigations required by Appendix A of Part 100 of this chapter.

(c) Regardless of the results of the investigations anywhere in the continental U.S., the ISFSI-DE shall have a value for the horizontal ground motion of no less than 0.10 g with the appropriate response spectrum.

(b) Other types of ISFSI Designs.

For ISFSI designs that do not use massive water basins or air-cooled canyons-such as canisters, casks, or silos-a site-specific investigation is required to establish site suitability commensurate with the specific requirements of the proposed ISFSI.

§ 72.67 Criteria for Radioactive Materials in Effluents and Direct Radiation from an ISFSI.

(a) During normal operations and anticipated occurrences, the annual dose equivalent to any real individual who is located beyond the controlled area shall not exceed 25 mrem to the whole body, 75 mrem to the thyroid and 25 mrem to any other organ as a result of exposure to planned discharges of radioactive materials, radon and its daughters excepted, to the general environment, (2) direct radiation from ISFSI operations and (3) any other radiation from uranium fuel cycle operations within the region.

(b) Operational restrictions shall be established to meet as low as is reasonably achievable objectives for radioactive materials in effluents and direct radiation levels associated with ISFSI operations.

(c) Operational limits shall be established for radioactive materials in effluents and direct radiation levels associated with ISFSI operations to meet the limits given in paragraph (a) of this section.

§ 72.68 Controlled Area of an ISFSI.

(a) For each ISFSI site, a controlled area shall be established.

(b) Any individual located on or beyond the nearest boundary of the controlled area shall not receive a dose greater than 5 rem to the whole body or any organ from any design basis accident. The minimum distance from the spent fuel handling and storage facilities to the nearest boundary of the controlled area shall be at least 100 meters.

(c) The controlled area may be traversed by a highway, railroad or waterway, so long as appropriate and effective arrangements are made to control traffic and to protect the public health and safety.

§ 72.69 ISFSI Emergency Planning Zone

(a) For each ISFSI site, an ISFSI Emergency Planning Zone (ISFSI-EPZ) shall be established. The ISFSI-EPZ shall provide reasonable assurance that protective actions beyond its outer boundary would not be necessary.

(b) The boundaries of an ISFSI-EPZ for a particular ISFSI will be determined on a case-by-case basis taking into account both the characteristics of the specific facility and local conditions such as demography, topography, land characteristics, access routes and local jurisdictional boundaries.

§72.70 Spent Fuel Transportation.

The proposed ISFSI shall be evaluated with respect to the potential impact on the environment of spent fuel being transported into the area.

Subpart F - General Design Criteria

§ 72.71 General Considerations.

Pursuant to the provisions of § 72.15 of this Part, an application to store spent fuel in an ISFSI must include the design criteria for the

proposed storage complex. These design criteria establish the design, fabrication, construction, testing, and performance requirements for structures, systems, and components important to safety as defined in § 72.3. The general design criteria identified in this section establish minimum requirements for the design criteria for an ISFSI. Any omissions in these general design criteria do not relieve the applicant from the requirement of providing the necessary safety features in the design of the ISFSI.

§ 72.72 Overall Requirements

(a) Quality Standards

Structures, systems, and components important to safety shall be designed, fabricated, erected, and tested to quality standards commensurate with the importance to safety of the function to be performed.

(b) Protection Against Environmental Conditions and Natural Phenomena.

(1) Structures, systems, and components important to safety shall be designed to accommodate the effects of, and to be compatible with, site characteristics and environmental conditions associated with normal operation, maintenance, and testing of the ISFSI; and to withstand postulated accidents.

(2) Structures, systems, and components important to safety shall be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, lightning, hurricanes, floods, tsunami, and seiches, without impairing their capability to perform safety functions. The design bases for these structures, systems, and components shall reflect (i) appropriate consideration of the most severe of the natural phenomena

reported for the site and surrounding area, with appropriate margins to take into account the limitations of the data and the period of time in which the data have accumulated, and (ii) appropriate combinations of the effects of normal and accident conditions and the effects of natural phenomena. An ISFSI need not be protected from tornado missiles but should be designed to prevent massive collapse of building structures or the dropping of heavy objects onto the stored spent fuel as a result of building structural failures.

(3) Capability shall be provided for determining the intensity of natural phenomena that may occur for comparison with design bases of structures, systems, and components important to safety.

(4) If the ISFSI is located over an aquifer which is a major water resource, measures shall be taken to preclude the transport of radioactive materials to the environment through this potential pathway.

(c) Protection Against Fires and Explosions.

Structures, systems, and components important to safety shall be designed and located so that they can continue to perform their safety functions effectively under credible fire and explosion exposure conditions. Noncombustible and heat-resistant materials shall be used wherever practical throughout the ISFSI, particularly in locations vital to the control of radioactive materials and to the maintenance of safety control functions. Explosion and fire detection, alarm, and suppression systems shall be designed and provided with sufficient capacity and capability to minimize the adverse effects of fires and explosions on structures, systems, and components important to safety. The design of the ISFSI shall include provisions to protect against adverse effects that might result from either the operation or the failure of the fire suppression system.

(d) Sharing of Structures, Systems, and Components

Structures, systems, and components important to safety shall not be shared between an ISFSI and other facilities unless it is shown that such sharing will not impair the capability of either facility to perform its safety functions, including the ability to return to a safe condition in the event of an accident.

(e) Proximity of Sites.

An ISFSI located near other nuclear facilities shall be designed and operated to ensure that the cumulative effects of their combined operations will not constitute an unreasonable risk to the health and safety of the public.

(f) Testing and Maintenance of Systems and Components.

Systems and components that that are important to safety shall be designed to permit inspection, maintenance, and testing.

(g) Emergency Capability.

Structures, systems, and components important to safety shall be designed for emergencies. The design shall provide for accessibility to the equipment of onsite and available offsite emergency facilities and services such as hospitals, fire and police departments, ambulance service, and other emergency agencies.

(h) Confinement Barriers and Systems.

(1) The fuel cladding shall be protected against degradation and gross ruptures.

(2) For underwater storage of spent fuel in which the pool water serves as a shield and a confinement medium for radioactive materials, systems designed for maintaining water purity and the pool water level shall be designed so that any abnormal operations or failure in those

systems from any cause will not cause the water level to fall below safe limits. The design shall preclude installations of drains, permanently connected systems, and other features that could by abnormal operations or failure cause a significant loss of water. Pool water level equipment shall be provided to alarm in a continuously manned location if the water level in the fuel storage pools falls below a predetermined level.

(3) Ventilation and off-gas systems shall be provided where necessary to ensure the confinement of airborne radioactive particulate materials during normal or off-normal conditions.

(i) Instrumentation and Control Systems.

Instrumentation and control systems shall be provided to monitor systems that are important to safety over anticipated ranges for normal operation and off-normal operation. Those instruments and control systems that must remain operational under accident conditions shall be identified in the Safety Analysis Report.

(j) Control Room or Control Areas.

A control room or control areas shall be designed to permit occupancy and actions to be taken to monitor the ISFSI safely under normal conditions, and to provide safe control of the ISFSI under off-normal or accident conditions.

(k) Utility Services.

(1) Each utility service system shall be designed to meet emergency conditions. The design of utility services and distribution systems that are important to safety shall include redundant systems to the extent necessary to maintain, with adequate capacity, the ability to perform safety functions assuming a single failure.

(2) Emergency utility services shall be designed to permit testing of the functional operability and capacity, including the full operational sequence, of each system for transfer between normal and emergency supply sources; and to permit the operation of associated safety systems.

(3) Provisions shall be made so that, in the event of a loss of the primary electric power source or circuit, reliable and timely emergency power will be provided to instruments, utility service systems, the central security alarm station, and operating systems, in amounts sufficient to allow safe storage conditions to be maintained and to permit continued functioning of all systems essential to safe storage.

§ 72.73 Criteria for Nuclear Criticality Safety

(a) Design for Criticality Safety.

Spent fuel handling, transfer, and storage systems shall be designed to be maintained subcritical and to prevent a nuclear criticality accident. The design of handling, transfer, and storage systems shall include margins of safety for the nuclear criticality parameters that are commensurate with the uncertainties in the handling, transfer and storage conditions, in the data and methods used in calculations, and in the nature of the immediate environment under accident conditions.

(b) Methods of Criticality Control.

The design of an ISFSI shall be based on either favorable geometry (spacing) or permanently fixed neutron absorbing materials (poisons). Where solid neutron absorbing materials are used, the design shall provide for positive means to verify their continued efficacy. In criticality design analyses for underwater storage systems, credit can be taken for the neutron absorption of rack structures and the water within the storage unit.

§ 72.74 Criteria for Radiological Protection

(a) Exposure Control.

Radiation protection systems shall be provided for all areas and operations where onsite personnel may be exposed to radiation or airborne radioactive materials. Structures, systems, and components for which operation, maintenance, and required inspections may involve such exposure shall be designed, fabricated, located, shielded, controlled, and tested so as to control external and internal radiation exposures to personnel. The design shall include means to:

(1) prevent the accumulation of radioactive material in those systems requiring access;

(2) decontaminate those systems requiring access;

(3) control access to areas of potential contamination or high radiation within the ISFSI;

(4) measure and control contamination of areas requiring access;

(5) minimize the time required to perform work in the vicinity of radioactive components; for example, by providing sufficient space for ease of operation and designing equipment for ease of repair and replacement; and

(6) shield personnel from radiation exposure.

(b) Radiation Alarm Systems.

Radiation alarm systems shall be provided in accessible work areas to warn operating personnel of radiation levels above a given setpoint and of concentrations of radioactive material in effluents above control limits. Such systems shall be designed with provisions for calibration and testing their operability.

(c) Effluent and Direct Radiation Monitoring.

(1) Effluent systems shall be provided with means for measuring the amount of radionuclides in effluents during normal operations and under accident conditions. A means of measuring the flow of the diluting medium, either air or water, shall also be provided.

(2) Areas containing radioactive materials shall be provided with systems for measuring the direct radiation levels in and around these areas.

(d) Effluent Control.

The ISFSI shall be designed to provide means to limit to levels as low as is reasonably achievable the release of radioactive materials in effluents during normal operations; and control the release of radioactive materials under accident conditions. Analyses shall be made to show that releases to the general environment during normal operations and anticipated occurrences will be within the exposure limits given in § 72.67. Analyses of design basis accidents shall be made, to show that releases to the general environment will be within the exposure limits given in § 72.68. Systems designed to monitor the release of radioactive materials shall have means for calibration and testing their operability.

§ 72.75 Criteria for Spent Fuel and Radioactive Waste Storage and Handling

(a) Spent Fuel and Radioactive Waste Storage and Handling Systems.

Spent fuel storage, radioactive waste storage, and other systems that might contain or handle radioactive materials associated with spent fuel, shall be designed to ensure adequate safety under normal and accident conditions. These systems shall be designed with (1) a capability to test and monitor components important to safety, (2) suitable shielding

for radiation protection under normal and accident conditions, (3) confinement structures and systems, (4) a heat-removal capability having testability and reliability consistent with its importance to safety, and (5) means to minimize the quantity of radioactive wastes generated.

(b) Waste Treatment.

Radioactive waste treatment facilities shall be provided. Provisions shall be made for the packaging of site-generated low level wastes in a form suitable for transfer to disposal sites.

§ 72.76 Criteria for Decommissioning

The ISFSI shall be designed for decommissioning. Provisions shall be made to facilitate decontamination of structures and equipment, minimize the quantity of radioactive wastes and contaminated equipment, and facilitate the removal of radioactive wastes and contaminated materials at the time the ISFSI is permanently decommissioned.

Subpart G - Quality Assurance

§ 72.80 Quality Assurance Program; Records.

(a) A quality assurance program based on the criteria in Appendix B to Part 50 of this chapter shall be established and implemented for the structures, systems, and components of an ISFSI that are important to safety. The application of the quality assurance program should be commensurate with the importance to safety of identified activities and individual structures, systems, and components.

(b) The quality assurance program shall cover all activities identified as being important to safety throughout the life of the licensed activity - from site selection through decommissioning - prior to termination of the license.

(c) Appropriate records of the design, fabrication, erection, testing, maintenance and ocupation of structures, systems, and components important to safety shall be maintained by or under the control of the licensee throughout the life of the ISFSI.

Subpart H - Physical Protection

§ 72.81 Physical Security Plan.

A plan for detailed security measures for physical protection shall be established. This plan shall consist of two parts. Part I shall demonstrate how the applicant plans to comply with the applicable requirements of Part 73 of this chapter and during transporation to and from the proposed ISFSI and shall include the design for physical protection and the licensee's safeguards contingency plan and guard training plan. Part II shall list tests, inspections, audits, and other means to be used to demonstrate compliance with such requirements.

§ 72.82 Design for Physical Protection

The design for physical protection shall show the site layout and ISFSI design features provided to protect the ISFSI from sabotage. It shall include:

(a) The design criteria for the physical protection of the proposed ISFSI;

(b) The design bases and the relation of the design bases to the design criteria submitted pursuant to paragraph (a) of this section; and

(c) Information relative to materials of construction, equipment, general arrangement, and proposed quality assurance program sufficient to provide reasonable assurance that the final security system will con-

form to the design bases for the principal design criteria submitted pursuant to paragraph (a) of this section.

§ 72.83 Safeguards Contingency Plan

(a) The requirements of the licensee's safeguards contingency plan for dealing with threats and industrial sabotage shall be as defined in § 73.40(b) of this Chapter. This plan shall include Background, Generic Planning Base, Licensee Planning Base, and Responsibility Matrix, the first four categories of information relating to nuclear facilities licensed under Part 50 of this chapter. (The fifth category of information, Procedures, does not have to be submitted for approval.)

(b) The licensee shall prepare and maintain safeguards contingency plan procedures in accordance with Appendix C to 10 CFR Part 73 for effecting the actions and decisions contained in the Responsibility Matrix of the licensee's safeguards contingency plan.

§ 72.84 Change to Physical Security and Contingency Plans

(a) The licensee shall make no change that would decrease the safeguards effectiveness of the physical security plan or the first four categories of information (Background, Generic Planning Base, Licensee Planning Base, and Responsibility Matrix) contained in the licensee safeguards contingency plan without the prior approval of the Commission. A licensee desiring to make such a change shall submit an application for an amendment to his license pursuant to § 72.39.

(b) The licensee may, without prior Commission approval, make changes to the physical security plan or the safeguards contingency plan, if the changes do not decrease the safeguards effectiveness of these plans. The licensee shall maintain records of changes to any such plan made without prior approval for a period of 2 years from the date of the change

and shall furnish to the Director of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the appropriate NRC Regional Office specified in Appendix A to Part 73 of this chapter, a report containing a description of each change within 2 months after the change is made.

Subpart I - Training and Certification of ISFSI Personnel

§ 72.91 Operator Requirements.

Operation of equipment and controls that have been identified as important to safety in the Safety Analysis Report and in the license shall be limited to trained and certified personnel or be under the direct visual supervision of an individual with training and certification in such operation. Supervisory personnel who personally direct the operation of equipment and controls that are important to safety must also be certified in such operations.

§ 72.92 Operator Training and Certification Program.

The applicant for a license under this part shall establish a program for training, proficiency testing, and certification of ISFSI personnel. This program shall be submitted to the Commission for approval with the license application.

§ 72.93 Physical Requirements.

The physical condition and the general health of personnel certified for the operation of equipment and controls that are important to safety shall not be such as might cause operational errors that could endanger other in-plant personnel or the public health and safety. Any condition which might cause impaired judgment or motor coordination must be con-

sidered in the selection of personnel for activities that are important to safety. Such conditions need not categorically disqualify a person, so long as appropriate provisions are made to accommodate such defect.

Conforming Amendments.

PART 51 - LICENSING AND REGULATORY POLICY AND PROCEDURES FOR ENVIRONMENTAL PROTECTION.

2 In § 51.5(a) paragraph (10) is redesignated as paragraph (11) and a new paragraph (10) is added. In § 51.5(b) a new paragraph (9) is added. As amended § 51.5 reads as follows:

§ 51.5 Actions requiring preparation of environmental impact statements, negative declarations, environmental impact appraisals; actions excluded.

(a) An environmental impact statement will be prepared and circulated prior to taking any of the following types of actions:

* * * * *

(10) Issuance of a license pursuant to Part 72 of this chapter for the storage of spent fuel in an independent spent fuel storage installation (ISFSI) at a site not occupied by a nuclear power reactor.

(11) Any other action which the Commission determines is a major Commission action significantly affecting the quality of the human environment.

(b) Many licensing and regulatory actions of the Commission other than those listed in paragraph (a) may or may not require preparation of an environmental impact statement, depending upon the circumstances. In determining whether an environmental impact statement should or should

not be prepared for such action, the Commission shall be guided by the Council on Environmental Quality Guidelines, 40 CFR 1500.6. Such other actions include:

* * * * *

(9) Issuance of a license pursuant to Part 72 of this chapter for the storage of spent fuel in an independent spent fuel storage installation (ISFSI) on the site but not physically coupled to a nuclear power reactor.

PART 70 - DOMESTIC LICENSING OF SPECIAL NUCLEAR MATERIAL

3. Section 70.1 is amended by inserting the following phrase in the begining of paragraph (a) and by adding a new paragraph to read as follows:

70.1(a) Except as provided in paragraph (c) of this section, the regulations of this part....

* * * * *

(c) The regulations in Part 72 of this chapter establish requirements, procedures, and criteria for the issuance of licenses to possess spent fuel and other radioactive materials associated with spent fuel storage in an independent spent fuel storage installation (ISFSI) and the terms and conditions under which the Commission will issue such licenses.

PART 73 - PHYSICAL PROTECTION OF PLANTS AND MATERIALS SECTION 73.1(b) IS AMENDED BY ADDING A NEW PARAGRAPH § 73.1 PURPOSE AND SCOPE

4. In § 73.1(b) Scope, add a new paragraph as follows:

* * * * *

73.1(b)(6) This part prescribes requirements for the physical protection of spent fuel stored in an independent spent fuel storage installation (ISFSI) licensed under Part 72 of this Chapter.

PART 150 - EXEMPTIONS AND CONTINUED REGULATORY AUTHORITY IN AGREEMENT STATES UNDER SECTION 274

5. Section 150.15(a) is amended by adding a new paragraph (8) to read as follows:

§ 150.15 Persons not exempt.

(a) Persons in agreement States are not exempt from the Commission's licensing and regulatory requirements with respect to the following activities:

* * * * *

150.15(a)(7) The storage of spent fuel in an independent spent fuel storage installation (ISFSI) licensed pursuant to Part 72 of this Chapter.

* * * * *

Dated at _____ this _____ day of _____

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For the Nuclear Regulatory Commission

_____

Secretary of the Commission