

OMB SUPPORTING STATEMENT FOR PROPOSED RULE  
10 CFR PART 72  
GEOLOGICAL AND SEISMOLOGICAL CHARACTERISTICS FOR SITING AND DESIGN OF  
DRY CASK INDEPENDENT SPENT FUEL STORAGE INSTALLATIONS AND MONITORED  
RETRIEVABLE STORAGE INSTALLATIONS  
(3150-0132)

REVISION

Description of the Information Collection

The existing regulations under 10 CFR Part 72 establish requirements, procedures, and criteria for the issuance of licenses to receive, transfer, and possess power reactor spent fuel and other radioactive materials associated with spent fuel storage, in an independent spent fuel storage installation (ISFSI) or monitored retrievable storage installation (MRS). The proposed rule would update the seismic siting and design criteria, including geologic, seismic, and earthquake engineering considerations. Changes to the regulations are needed because the current requirements do not reflect the state-of-the-art in seismic analysis and the experience gained in reviewing ISFSI applications, potentially resulting in more costly facility designs, while not providing any measurable additional safety benefit. The proposed rule would (1) allow the Nuclear Regulatory Commission (NRC) and its licensees to benefit from experience gained in the licensing of existing facilities and to incorporate the rapid advancements in the earth sciences and earthquake engineering; (2) make the Part 72 regulations compatible with the 1996 revision to Part 100 that addressed uncertainties in seismic hazard analysis, and (3) make the Part 72 requirements commensurate with the risk associated with an ISFSI or MRS. These revisions are expected to impact reporting burden of the existing rules. While no new reporting requirements are being proposed, the burden to licensees for developing the currently required information is expected to increase due to proposed changes in the methodologies for site evaluation required to be used. As a result of the changes, however, there is expected to be a reduction in burden with respect to the analysis and design of ISFSI and MRS systems, structures, and components. These revisions also are expected to reduce the submission of requests for exemptions under §72.7 from the requirements of §72.102(f)(1) during the next three years. The net overall impact of the proposed changes is expected to result in a decrease in burden.

The existing regulation in §72.102 does not specify recordkeeping and reporting requirements. However, the regulation does require that the licensee evaluate geological and seismological characteristics of the site. This regulation requires that, for any ISFSI or MRS located in the western U.S. or in other areas of known potential seismic activity in the eastern U.S., seismicity be evaluated by the “deterministic” techniques of Appendix A to Part 100. For sites evaluated under Part 100, Appendix A criteria, §72.102(f)(1) requires that the design earthquake be equivalent to the safe shutdown earthquake for a nuclear power plant (NPP). However, Part 100 was amended in 1996 (61 FR 65157, December 11, 1996) and incorporated a new §100.23 in the regulations to require NPP applicants, after January 10, 1997, to account for uncertainties in the seismic hazard evaluation by using a probabilistic seismic hazard analysis (PSHA) approach or suitable sensitivity analyses, instead of the “deterministic” Appendix A to Part 100 approach, as part of the geologic and seismic siting criteria for NPPs.

Section 72.120 requires that an application submitted according to the provisions of §72.24 (regarding contents of application) to store spent fuel in an ISFSI or MRS include the design criteria for the proposed storage installation. The proposed rule would require changes in the methodologies used for the evaluation of geological and seismological characteristics of the site, described in proposed new §72.103, but does not change the application requirements of §§72.120 or 72.24. Section 72.16 provides instructions for filing of applications prepared according to §§72.120 and 72.24.

Currently, the burden associated with the requirements of §72.102 are accounted for in the burden described for §72.16. Under the proposed rule, the regulations for specific license applicants for dry modes of storage will be contained in a new §72.103. Current §72.102 is being left in place (with only a title change) to preserve the licensing basis for existins ISFSIs. As with the burden for §72.102, the burden for this new proposed section will be accounted for in the burden described for §72.16.

The existing regulations in §72.212 apply to general licensees for storage of spent fuel at power reactor sites. Section 72.212(b)(2) requires that general licensees perform written evaluations establishing that conditions set forth in the Certificate of Compliance (CoC) have been met; cask storage pads and areas have been designed to adequately support the static load of the stored casks; and the requirements of §72.104 have been met. The record of these evaluations must be retained by the general licensee until spent fuel is no longer stored under the general license. The proposed rule would require that general licensees perform written evaluations as before, but establish that cask storage pads and areas have been designed to adequately support dynamic loads as well as static loads of the stored casks, considering potential amplification of earthquakes through soil-structure interaction, and soil liquefaction potential or other soil instability due to vibratory ground motion. The time period for retaining the record is unchanged by this revised rule. There is no additional burden associated with evaluating cask pads and areas for dynamic loads because general licensees are already required to consider dynamic loads to meet the cask design basis of the Certificate of Compliance under §72.212(b)(i)(A). Therefore, the proposed changes would not actually require any general licensees operating an ISFSI to re-perform any written evaluations previously undertaken.

## A. JUSTIFICATION

### 1. Need for the Collection Information

In order to obtain a specific license under Part 72, an applicant must submit financial, safeguards, technical, and environmental information. Such information is needed both to provide safety assurance and to comply with complementary NRC regulations for environmental protection (10 CFR Part 51) and safeguards requirements (10 CFR Part 73).

Section 72.7 provides that the Commission may grant exemptions from the requirements of Part 72 under specified conditions, upon the application of any interested person or on its own initiative. Applications under this section are examined by the NRC licensing staff to determine whether the requested exemption is authorized by law and whether it will endanger life or property or the common defense and security, and to determine if it is otherwise in the public interest.

The proposed rule may reduce the number of exemption requests received under this section for §72.102(f)(1) requirements. The proposed regulatory changes would provide greater flexibility in the geological and seismological siting requirements by allowing new applicants for ISFSI or MRS licenses to take advantage of developments in the field over the past two decades.

Section 72.16 specifies the place for filing an application for an NRC license under Part 72, requires that the application be made under oath, and specifies the documents and number of copies required to be submitted with an application.

The information submitted in the application pursuant to this section and other sections described below is reviewed by various NRC organizational units to assess the adequacy of the applicant's organization, training, experience, procedures and plans for protection of the public health and safety, common defense and security, and the environment. The NRC review and the findings derived therefrom form the basis for NRC decisions concerning the issuance, modification, or revocation of licenses to receive, transfer, and possess power reactor spent fuel, high-level radioactive waste, or reactor-related greater-than-class C waste.

Section 72.103 would require that specific licensees evaluate geological and seismological characteristics of the site.

The proposed rule would place new requirements for licensee evaluation of geological and seismological characteristics of a site, for specific license applicants on or after the effective date of the rule, in a new §72.103. The proposed changes would: (1) require a specific license applicant for a dry storage facility located in the western U.S., or in the eastern U.S. in areas of known seismic activity, and not co-located with a NPP, to account for uncertainties in the seismic hazards evaluation by using PSHA methods or other suitable sensitivity analyses. This proposed change would make the regulations compatible with 10 CFR 100.23 for NPPs; and (2) allow ISFSI or MRS specific license applicants to use a design earthquake ground motion appropriate for and commensurate with the risk associated with an ISFSI or MRS.

Section 72.212(b)(2) requires that general licensees perform a written evaluation, prior to use, which establish that (i) conditions in the Certificate of Compliance have been met, (ii) cask storage pads and areas have been designed to adequately support the static load of the stored casks; and (iii) the requirements of §72.104 (regarding radioactive material in effluents and direct radiation) have been met. A copy of the evaluation must be retained as a record until spent fuel is no longer stored under the general license issued under §72.210.

The proposed rule would add language to require general licensees to address the dynamic loads of the stored casks in addition to the static loads (§72.212(b)(2)(i)(B)). The proposed changes to §72.212 would not actually impose new burden on the general licensees because they currently need to consider dynamic loads to meet the requirements in §72.212(b)(2)(i)(A). Section 72.212(b)(2)(i)(A) requires that general licensees perform written evaluations to meet conditions set forth in the cask CoC. These CoCs require that dynamic loads, such as seismic and tornado loads, be evaluated to meet the cask design bases.

2. Agency Use of Information

The information included in the applications, reports and records is reviewed by the NRC staff to ensure the provision of an adequate level of protection of public health and safety, common defense and security, and the environment.

3. Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection.

4. Efforts to Identify Duplication and Use Similar Information

The Information Requirements Control Automated System (IRCAS) was searched to determine duplication. None was found. In general, information required by NRC in applications, reports, or records concerning the transfer, receipt, possession, or use of nuclear material does not duplicate other Federal information collection requirements and is not available from any source. In an effort to minimize duplication and licensee burden, NRC and the Department of Energy (DOE) jointly utilize a Nuclear Materials Management and Safeguards System (NMMSS). Common reporting forms are used to minimize the reporting burden on industry members required to provide nuclear materials data to one or both agencies in accordance with prevailing regulations or contractual obligations. The licensee is thus able to file one report to meet the requirements of both agencies.

5. Effort to Reduce Small Business Burden

The NRC has determined that the affected entities are not small entities or businesses as those terms are used in the Regulatory Flexibility Act.

6. Consequences to Federal Programs or Policy Activities if the Collection is Not Conducted or is Collected Less Frequently

Specific license applications are only required to be submitted for the initial license, for the CoC, for amendments, and for renewal every 20 years (40 years for an MRS). The application process requires that specific license applicants and licensees perform comprehensive safety and environmental reviews to assure that all activities will be or are being conducted safely and in accordance with NRC regulations. General licenses for an ISFSI are issued under §72.210 to persons authorized to possess a NPP license under Part 50, without filing a Part 72 license application. A general licensee is required to meet the conditions specified in Subpart K of Part 72.

The review and submission of the information required for the specific license application is essential to NRC's determination of whether the applicant has training, experience, equipment, facilities and procedures adequate to protect the public health and safety. For specific license ISFSIs and ISFSIs operated under a general license, other reporting and recordkeeping requirements are occasioned by specific events such as tests and experiments, inspections and audits, annual environmental reporting, and transfers and inventories of licensed material.

Conduct of these tests and other events and collection of information concerning them at the required frequency is essential to the assurance of protection of the health and safety of workers and the public.

7. Circumstances which Justify Variation from OMB Guidelines

In the “Clearance Extension” for 10 CFR Part 72, the NRC identified a number of sections and paragraphs that are contrary to OMB Guidelines and the corresponding reasons. Nothing in this proposed action would change the existing variations and there are no additional variations based on this proposed action. Contrary to the OMB Guidelines in 5 CFR 1320.6(f), 10 CFR 72.212(b)(2) requires that general licensees retain records of a written evaluation longer than three years. The records of the evaluations are needed to establish that (i) conditions in the CoC have been met, (ii) cask storage pads and areas have been designed to adequately support the static load of the stored casks, and (iii) the requirements of §72.104 (regarding radioactive material in effluents and direct radiation) have been met. They are also needed to demonstrate whether the general licensee's site parameters are enveloped by the cask design capability, and whether activities related to storage of spent fuel under the general license involve any unreviewed facility safety question or change in the facility technical specifications, as provided in §50.59.

8. Consultations Outside the NRC

An opportunity for public comment on the information collection requirements for this clearance package has been published in the Federal Register.

9. Payment or Gift to Respondents

Not applicable.

10. Confidentiality of Information

None.

11. Justification for Sensitive Questions

No sensitive information is requested under these regulations.

12. Estimated Industry Burden and Burden Hour Cost

See Table 1 for reporting burden, and Table 2 for recordkeeping burden.

**Table 1: Reporting Requirements for Part 72**

Section	No. of Respondents	Annual Responses per Respondent	Total Annual Responses	Burden Hours per Response	Total Annual Burden
72.7	(1)	(1)	(10)	(104)	(1,040)
72.16	(.5)	(.5)	(.5)	(12,732)	(6,366)
72.103 (Included in 72.16)	0	0	0	0	0
TOTALS	(1.5)				(7,406)

**Table 2: Recordkeeping Requirements for Part 72**

Section	Number of Recordkeepers	Burden Hours per Recordkeeper	Total Annual Burden
72.212(b)(2)(i)(B)	(7)	2,313 <sup>1</sup>	6,940

<sup>1</sup> Retention period is until spent fuel is no longer stored under the general license issued under § 72.210.

**TOTAL OVERALL RESPONSES (8.5) (-1.5 total responses for reporting + -7 recordkeepers)**

**TOTAL LICENSEE BURDEN HOURS (466) (-7,406 hours for reporting + 6,940 hours for recordkeeping)**

**TOTAL LICENSEE COST (\$70,832) (-\$1,125,712 for reporting + 1,054,880 for recordkeeping)**

Cost to applicants and licensees is calculated at a rate of \$152 per hour.

13. Estimate of Other Additional Costs

NRC has determined that the records storage cost is roughly proportional to the recordkeeping burden cost. Based on a typical clearance, the records storage cost has been determined to be equal to 0.04 percent of the recordkeeping burden cost. Therefore, the records storage cost for this clearance is insignificant, as shown below.

- 6,940 recordkeeping burden hours x .0004 = 2.8 record storage cost hours
- 2.8 record storage cost hours x \$152/hour = \$425.6 record storage cost

#### 14. Estimated Annualized Cost to the Government

The annual cost for NRC staff review of a PSHA or suitable sensitivity analysis is estimated to be \$48,640 (Professional effort - 320 hours @ \$152/hr). A reduction in cost for reviewing exemption requests for requirements in § 72.102(f)(1) is estimated to save \$36,480 in NRC staff review annually (Professional effort - 240 hours @ \$152/hr). A one-time cost for revising existing guidance documents of \$48,640 (Professional effort - 320 hours @ \$152) will be incurred.

The costs are fully recovered through fee assessments to NRC licensees pursuant to 10 CFR Parts 170 and 171.

#### 15. Reasons for Changes in Burden or Cost

The overall burden estimate for Part 72 has decreased from 41,283 hours (27,777 reporting and 13,506 recordkeeping) to 36,948 hours (16,502 reporting and 20,446 recordkeeping) for a net decrease of 4,335 hours (-11,275 hours for reporting and +6,940 hours for recordkeeping); and the responses decreased by 8.5 from 201 to 192 responses for the following reasons:

- the reporting burden associated with Section 72.7 would be reduced by 1,040 hours from 2,200 to 1,160 hours, with a reduction of 1 respondent from 11 to 10 respondents annually. This reduction is based on eliminating the need for ISFSI and MRS license applicants to seek exemptions from the requirements of Section 72.102(f)(1) under Section 72.7;
- the reporting burden associated with Section 72.16 would be reduced by 10,235 hours from 19,098 to 8,863 hours. This burden will include the burden associated with new proposed Section 72.103. While the proposed Section 72.103 would result in a burden increase because of the use of a more complex hazard analysis methodology (PSHA or suitable sensitivity analyses) in order to better characterize the seismic hazard, it reduces the burden for analysis and design of ISFSI or MRS systems, structures, and components, with the net result being a burden reduction of 3,869 hours. Further, the burden is reduced by 6,366 hours, reflecting up-to-date information on the estimated annual number of respondents, which NRC estimates to be 1 respondent, instead of 1.5 respondents, for a reduction of .5 respondent annually; and
- the recordkeeping burden associated with Section 72.212(b)(2) would be increased by 6,940 hours from 60 to 7,000 hours. The revised burden estimate is higher than previously reported by NRC and was re-estimated to include the burden associated with conducting the static and dynamic analysis to accurately characterize the seismic hazard of the facility. Although the number of recordkeepers has decreased by 7 from 10 to 3, the analytical burden and the burden to prepare the written evaluation have increased that are associated with the analytical effort necessary to evaluate and protect against seismic hazards.

16. Publication for Statistical Use

The collected information is not published for statistical use.

17. Reason for not Displaying the Expiration Date

The requirement is contained in a regulation. Amending the Code of Federal regulations to display information that, in an annual publication, could become obsolete would be unduly burdensome and too difficult to keep current.

18. Exceptions to the Certification Statement

None.

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

Statistical methods are not used in this collection of information.