

by using a probabilistic method, such as the PSHA, or suitable sensitivity analyses, similar to § 100.23 requirements for an NPP.

New § 72.103(f)(1) requires that the geological, seismological, and engineering characteristics of a site and its environs must be investigated in sufficient scope and detail to permit an adequate evaluation of the proposed site and to determine the DE. These requirements track existing requirements in § 100.23(c).

New §§ 72.103(f)(2)(i) through (iv) specify criteria for determining the DE for the site, the potential for surface tectonic and nontectonic deformations, the design basis for seismically induced floods and water waves, and other design conditions. In particular, § 72.103(f)(2)(i) provides that a specific-license applicant must address uncertainties in seismic hazard analysis by using appropriate analyses, such as a PSHA or suitable sensitivity analyses, for determining the DE. Sections 72.103(f)(2)(ii) through (iv) track the corresponding requirements in § 100.23(d).

Finally, the new § 72.103(f)(3) provides that regardless of the results of the investigations anywhere in the continental U.S., the DE must have a value for the horizontal ground motion of no less than 0.10 g with the appropriate response spectrum. This provision is identical to the requirement currently included in § 72.102(f)(2).

#### *Section 72.212 Conditions of general license issued under § 72.210*

Section 72.212(b)(2)(i)(B) is revised to require general licensees to address the dynamic loads of the stored casks in addition to the static loads. The requirements are changed because during a seismic event the cask experiences dynamic inertia loads in addition to the static loads, which are supported by the concrete pad. The dynamic loads depend on the interaction of the casks, the pad, and the foundation. Consideration of the dynamic loads, in addition to the static loads, of the stored casks will ensure that the pad would perform satisfactorily during a seismic event.

The new paragraph also requires consideration of potential amplification of earthquakes through soil-structure interaction, and soil liquefaction potential or other soil instability due to vibratory ground motion. Depending on the properties of soil and structures, the free-field earthquake acceleration input loads may be amplified at the top of the storage pad. These amplified acceleration input values must be bound by the design bases seismic acceleration

values for the cask, specified in the Certificate of Compliance. Liquefaction of the soil and instability during a vibratory motion due to an earthquake may affect the cask stability, and thus must be addressed.

The changes to § 72.212 are intended to require that general licensees perform appropriate load evaluations of cask storage pads and areas to ensure that casks are not placed in an unanalyzed condition. Similar requirements currently exist in § 72.102(c) for an ISFSI specific license and are now in § 72.103(c).

#### **VIII. Criminal Penalties**

For the purpose of Section 223 of the Atomic Energy Act (AEA), the Commission is issuing this final rule to amend 10 CFR Part 72 under one or more of sections 161b, 161i, or 161o of the AEA. Willful violations of the rule will be subject to criminal enforcement.

#### **IX. Agreement State Compatibility**

Under the "Policy Statement on Adequacy and Compatibility of Agreement State Programs" approved by the Commission on June 30, 1997, and published in the **Federal Register** on September 3, 1997 (62 FR 46517), this rule is classified as Compatibility Category "NRC." Compatibility is not required for Category "NRC" regulations. The NRC program elements in this category are those that relate directly to areas of regulation reserved to the NRC by the AEA of 1954, as amended (AEA), or the provisions of Title 10 of the Code of Federal Regulations. Although an Agreement State may not adopt program elements reserved to the NRC, it may wish to inform its licensees of certain requirements via a mechanism that is consistent with the particular State's administrative procedure laws, but does not confer regulatory authority on the State.

#### **X. Voluntary Consensus Standards**

The National Technology Transfer Act of 1995 (Pub. L. 104-113) requires that Federal agencies use technical standards that are developed or adopted by voluntary consensus standards bodies unless the use of such a standard is inconsistent with applicable law or otherwise impractical. In this final rule, the NRC is presenting amendments to its regulations in 10 CFR part 72 for the geological and seismological criteria of a dry cask independent spent fuel storage facility to make them commensurate with the risk of the facility. This action does not constitute the establishment of a standard that

establishes generally applicable requirements.

#### **XI. Finding of No Significant Environmental Impact: Availability**

The Commission has determined under the National Environmental Policy Act of 1969, as amended, and the Commission's regulations in Subpart A of 10 CFR part 51, that this rule is not a major Federal action significantly affecting the quality of the human environment and therefore an environmental impact statement is not required.

The Commission concluded, based on an environmental assessment, that no significant environmental impact would result from this rulemaking. In comparison with an NPP, an operating ISFSI or MRS is a passive facility in which the primary activities are waste receipt, handling, and storage. An ISFSI or MRS does not have the variety and complexity of active systems necessary to support an operating NPP. After the spent fuel is in place, an ISFSI or MRS is essentially 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 after it has decayed for more than one year before storage in an ISFSI or MRS and the low inventory of volatile radioactive materials readily available for release to the environs. The long-lived nuclides present in spent fuel are tightly bound in the fuel materials and are not readily dispersible. The short-lived volatile nuclides, such as I-131, are no longer present in aged spent fuel stored at an ISFSI or MRS. Furthermore, even if the short-lived nuclides were present during an event of a fuel assembly rupture, the canister surrounding the fuel assemblies would confine these nuclides.

The standards in part 72 Subparts E "Siting Evaluation Factors," and F "General Design Criteria," ensure that the dry cask storage designs are very rugged and robust. The casks must maintain structural integrity during a variety of postulated non-seismic events, including cask drops, tip-over, and wind driven missile impacts. These non-seismic events challenge cask integrity significantly more than seismic events. Therefore, the casks have substantial design margins to withstand