

of directing new applicants for specific licenses to comply with 10 CFR 100.23 in its entirety, including conforming the DE to the SSE criteria. The commenter noted that by adopting § 100.23 in its entirety, there would be no need to make distinctions among locations of facilities and the rule would incorporate state-of-the-art improvements in the geosciences and earthquake engineering and would allow uncertainty to be addressed. The commenter further noted that NRC had cited its 10 years of experience in reviewing dry cask storage installation applications as a reasonable basis for allowing an exceedance probability greater than that applied to a nuclear power plant, but pointed out that this was 10 years of analytical, not practical experience. In the commenter's view, this lack of practical experience, and the fact that a probabilistic analysis is, by its very nature, risk-informed with respect to uncertainty, means that there does not seem to be a quantifiable safety basis for any exceedance margin other than that now applied to seismic analysis for nuclear power plant proposals. The commenter stated that, absent any definitive experience, the seismic design criteria for an ISFSI should be no less protective than that of a nuclear power plant.

Response: The NRC disagrees that new applicants for specific licenses should comply with § 100.23 in its entirety, including conforming the DE to the SSE criteria. Adopting the recommendation would fail to recognize the differences in risk between an NPP and an ISFSI or MRS facility in seismic design requirements. This is counter to the Commission policy encouraging development of risk-informed, performance-based regulations, and the Commission's Performance Goals.

The NRC acknowledges that actual earthquake performance data for ISFSI facilities are not available and thus that NRC's decision to allow an exceedance probability greater than that applied to a nuclear power plant is not based on practical experience. However, NRC has gained sufficient analytical experience to understand the performance of these facilities, by reviewing the analyses of these facilities performed by the licensees, and by performance of independent analyses. Additionally, experience has been gained in the design and construction of numerous facilities using the philosophy of a risk-informed approach described in the standard building codes, similar to the one proposed in the rule for ISFSIs. The risk-informed approach is also used by the Department of Energy in designing its facilities for seismic loads with risks varying from conventional facilities to

NPPs. NRC staff's analyses show that ISFSI storage casks are sufficiently robust, due to design requirements other than for earthquakes, that there is no release of radioactivity at an ISFSI site with a DE at a magnitude equal to the SSE for a NPP. This analytical experience provides a basis for allowing an exceedance probability greater than that applied to a nuclear power plant.

Proposed Change to 10 CFR 72.103

Comment 10: With respect to the provision in § 72.103(b) that sites "that lie within the range of strong near-field ground motion from historical earthquakes on large capable faults should be avoided," a commenter stated that the definition of "range of strong near-field ground motion" is not well defined but is often believed to be about 15 km. The commenter noted that this is a very large set-back from faults. The commenter argued that the key issue is that the design ground motion should represent the conditions at the site. If a site is located close to a large capable fault, then near-fault effects should be incorporated into the design ground motions rather than excluding these site locations.

Response: The NRC agrees with the comment. The sentence: "Sites that lie within the range of strong near-field ground motion from historical earthquakes on large capable faults should be avoided," has been removed from § 72.103(b). Section 72.103(f)(2)(iv) requires an evaluation of the effects of vibratory ground motion that may affect the design and operation of the proposed ISFSI or MRS. Therefore, near-fault effects must be included in the development of the ground motion used in design.

Comment 11: One commenter suggested removing the distinction in § 72.103 between western U.S. and eastern U.S. The commenter stated that the characterization of areas of known seismicity east of the Rocky Mountain Front as including three specific areas is misleading. The commenter argued that the entire region of the U.S. east of the Rocky Mountain Front is subject to earthquake occurrence and that one area should not be treated differently from another for the purpose of assessing seismic sources. Further, the commenter stated that 10 CFR part 100, appendix A, does not allow for less stringent alternatives for any area. Rather, the commenter noted, the fundamental requirements of that regulation apply uniformly to all regions of the U.S., independent of variations in the local rate of seismicity.

Response: In specifying the criteria for determining the DE, the current part 72

regulations distinguish between the western U.S. and the eastern U.S. Although the entire eastern U.S. is subject to earthquake occurrence, the areas east of the Rocky Mountain Front, except in specific areas of known seismic activity, do not experience significant seismic activity. Therefore, the use of an appropriate seismic response anchored at 0.25 g is considered as bounding for the design. However, for the western U.S. there is significant seismic activity varying from region to region. Therefore, it is not practical to use a bounding approach in specifying the DE for those sites.

However, if the applicant chooses the option of performing the PSHA for a site located in the eastern U.S., as allowed in § 72.103(a)(2), the seismic sources are assessed with the same rigor as the seismic sources for the PSHA performed for a site located in the western U.S. (§ 72.103(f)). In this case, the regulatory requirements of assessing the seismic sources for the PSHA method would apply uniformly to all regions of the U.S., independent of variations in the local rate of seismicity.

Comment 12: One commenter suggested inserting the word "sites" after "NY" in the first sentence of § 72.103(a)(1) to be consistent with language in § 72.102.

Response: The NRC agrees with the commenter's suggestion. The word "sites" will be inserted after "NY" in the first sentence of § 72.103(a)(1) to be consistent with language in § 72.102. In addition, other minor editorial changes have been made to this sentence.

Remove Detailed Guidance From the Regulation

Comment 13: One commenter stated that removing detailed guidance from the regulation that is related to analyzing non-seismic factors affecting geologic stability of the site would allow excessive discretion for the applicant and would result in too much uncertainty for a safety evaluation. This commenter noted that removing requirements for specific types of evaluation also removes the certainty for both the license applicant and the public as to what is expected during a review. The commenter requested retaining appendix A of part 100 as requirements for licensing.

Response: See the response to Comment 1.

Comment 14: A commenter questioned NRC's statement explaining that NRC proposed to remove detailed guidance from the regulation, in part, because "specifying geoscience assessments in detail in a regulation has created difficulties for applicants and