

review plan has been retitled "Design of Erosion Protection," and the review guidance in that section has been clarified to avoid confusion in the use of terms.

Issue: The NRC is requiring detailed seismic hazard analysis, even in zero seismic risk areas identified in the Uniform Building Code.

Comment: One commenter noted that for cases where a given site is located in a "zero" seismic risk area, as identified in the Uniform Building Code, no further seismic characterization, explanation, or description should be needed for the licensee or applicant.

Response: Maps for the maximum considered earthquake ground motion for the United States in the most recent version of the building code (2000 International Building Code) are based on probabilistic seismic hazard maps with additional modifications incorporating deterministic ground motions in selected areas and the application of engineering judgement. These maps were prepared for the National Earthquake Hazards Reduction Program by the United States Geological Survey. Because it is based on probabilistic methods, within the new update, the "zero" seismic risk areas no longer exist.

The NRC is currently establishing risk-informed and performance-based regulations. One example of this philosophy is the application of a risk-graded approach in developing seismic design requirements for nuclear facilities. Under this approach, for example, nuclear power plants have to meet the most stringent design requirements because they pose the greatest radiological risk to public health and safety. Other nuclear facilities like dry cask and canister storage facilities or uranium mining operations could be designed to less stringent design criteria because they pose substantially less radiological risk to public health and safety. This type of graded approach to radiological hazard is described in U.S. Department of Energy (DOE) Standard 1020-2002, "Natural Phenomena Hazards Design and Evaluation Criteria for Department of Energy Facilities." In that guidance, the DOE developed five performance categories according to the relative risks posed by the potential failure of a structure, system, or components (SSCs) to perform its intended safety function. Performance Category (PC)-2 is intended for occupational safety and the design requirements for this category match those in the IBC-2000. PC-3 SSCs are for hazard confinement and the design requirements go beyond those within IBC-2000. Given the potential

radiological hazards posed by Mill Tailing sites, evaluations of seismic hazards should therefore exceed those prescribed in the IBC-2000 for buildings. In addition, the National Earthquake Hazards Reduction Program maps do not take site effects into account. Local site effects, such as soil amplification, can greatly increase the level, spectral frequency content, and duration of vibratory ground motions at a site that is produced during an earthquake. Therefore, these effects need to be understood in order to accurately predict the seismic hazard at any site.

Based on these two considerations (graded risk approach and possible site amplification effects), staff conclude that site-specific seismic evaluations are necessary for all sites.

Issue: The NRC has not provided an adequate definition of the intent of using probabilistic seismic hazard analysis to satisfy the consideration of the maximum credible earthquake.

Comment: One commenter noted that the draft standard review plan indicates that licensees can use an alternative to the maximum credible earthquake, such as probabilistic seismic hazard analysis, but does not indicate whether the intent is to allow probabilistic analyses to satisfy 10 CFR part 40, appendix A, criterion 4(e) or it is being considered as an alternative requirement.

Response: The application of a probabilistic seismic hazard analysis in place of a deterministic approach is not intended to be an alternative requirement to, as defined in the question, but another way of satisfying the existing move toward risk-informed and performance-based regulations. In addition, other NRC regulations clearly recommend the use of a probabilistic approach as an acceptable way to account for uncertainties [e.g., 10 CFR 100.23(d)(1)].

Issue: The NRC has provided only general guidance to seismic hazard analysis, rather than guidance specific to certain geographic provinces.

Comment: One commenter noted that references cited in the standard review plan did not provide useful guidance with regard to site-specific seismicity issues, and suggested other references specific to Wyoming and the intermountain region of the western United States.

Response: The standard review plan is intended to provide general guidance to the NRC staff on reviewing license applications, license renewals, and amendment requests. The standard review plan does not preclude licensees from providing additional site-specific information as necessary in their license

application or amendment requests, and identifying how this information supports a specific licensing action.

4. Ground Water

Issue: NUREG-1620 should be consistent in use of terminology related to ground water.

Comment: The term "constituent of concern" seems to be used interchangeably with the term "hazardous constituent." Constituents of concern are not necessarily hazardous constituents unless they have migrated into "non-exempted" aquifers.

Response: Section 4.2.1 of the standard review plan was revised to delete a sentence equating constituents of concern with hazardous constituents. The term "hazardous constituent" is now used consistent with the definition in 10 CFR part 40, appendix A, criterion 5B(2).

Issue: The difference in an As Low As Reasonably Achievable (ALARA) analysis for radiological and nonradiological parameters needs to be more clearly presented.

Comment: An ALARA analysis for a nonradiological parameter differs from that for a radiological parameter in that once the concentration of a nonradiological parameter falls below the maximum concentration limit, the licensee has no obligation to further reduce the parameter's concentration. The NRC should distinguish between the two types of ALARA studies.

Response: The NRC concurs with the commenter. A sentence was added to Section 4.3.3.3 of the standard review plan to indicate that, when a nonradiological hazardous constituent concentration is below its regulatory maximum concentration level, the licensee has no further obligation to reduce the constituent concentrations.

Issue: The benefits of ground-water corrective action requirements at remote sites are questionable.

Comment: Two commenters noted that the NRC should provide further guidance on addressing instances where the benefits of ground-water correction action may not justify the cost. One comment referred to circumstances where restrictions on site access or site-specific physical characteristics may make it infeasible for members of the public to access ground water. Another comment suggested that the future value of the ground water removed and evaporated during corrective actions may exceed any risk posed by the contaminant.

Response: No changes to the standard review plan were made to address these comments. In such site-specific circumstances as described by the