On November 30, 1988 (53 FR 31651), the Commission published the final rule outlining the licensing requirements for ISFSI and MRS but reserved the emergency planning licensing requirements for a later date.

On May 24, 1993 (58 FR 29795), the Commission published for public comment the proposed emergency planning licensing requirements for ISFSI and MRS. This final rule codifies the emergency planning licensing requirements.

**Discussion**

On April 7, 1989 (54 FR 14051), the Commission published in the **Federal Register** the final regulations relating to Emergency Preparedness for Fuel Cycle and Other Radioactive Material Licensees (10 CFR parts 30, 40, and 70).

These regulations require certain NRC fuel cycle and other radioactive materials licensees that engage in activities that may have the potential for a significant accidental release of NRC licensed materials to establish and maintain approved emergency plans for responding to such accidents.

Although applicable to those licensed under different parts of the Commission's regulations, the requirements for emergency plans in parts 30, 40, and 70 contain similar provisions because they are designed to protect the public against similar radiological hazards. The proposed revision of 10 CFR part 72 as published for comment on May 24, 1993 (58 FR 29795), would also require applicants for an ISFSI and MRS license to submit an emergency plan. Although the texts of the Fuel Cycle final emergency planning requirements and the parallel provisions of the proposed Emergency Preparedness licensing requirements for ISFSI and MRS are not identical, these provisions have the same purpose and use the same approach. In both cases, the proposed regulations require onsite emergency planning with provisions for offsite emergency response in terms of coordination and communication with offsite authorities and the public. It is therefore appropriate that in both cases these requirements should be expressed in the same manner.

The Commission has determined that the emergency planning licensing requirements for 10 CFR part 72 licensees should be similar to those requirements already codified in § 70.22 for part 70 licensees. Nonetheless, the Commission wishes to establish unique provisions in the emergency planning requirements for MRS facilities (and certain more complex ISFSIs) versus typical ISFSI facilities. The Commission anticipates a potential need for enhanced emergency planning requirements appropriate to the entire range of operations which may be conducted at an MRS facility (or ISFSI that may be repackaging or handling spent fuel). The Commission acknowledges that, to date, accidents that have been postulated and analyzed for either an ISFSI or MRS would result in similar offsite doses. The analysis of potential onsite and offsite consequences of accidental releases associated with the operation of an ISFSI is contained in NUREG–1140. This evaluation shows that the maximum dose to a member of the public offsite due to an accidental release of radioactive materials would not exceed 1 rem effective dose equivalent, which is within the EPA Protective Action Guides or an intake of 2 milligrams of soluble uranium (due to chemical toxicity).

Thus, the consequences of worst-case accidents involving an ISFSI located on a reactor site would be inconsequential when compared to those involving the reactor itself. Therefore, current reactor emergency plans cover all at- or near-reactor ISFSI's. An ISFSI that is to be licensed for a stand-alone operation will need an emergency plan established in accordance with the requirements in this rulemaking. NUREG–1140 concluded that the postulated worst-case accident involving an ISFSI has insignificant consequences to the public health and safety. Therefore, the final requirements to be imposed on most ISFSI licensees reflect this fact, and do not mandate formal offsite components to their onsite emergency plans.

Similarly, the Commission has conducted an analysis of potential onsite and offsite consequences of accidental release associated with the operation of an MRS. The analysis is contained in NUREG–1092. This evaluation shows that the maximum dose to a member of the public offsite due to an accidental release of radioactive materials would likely not exceed 1 rem effective dose equivalent which is within the EPA Protective Action Guides or an intake of 2 milligrams of soluble uranium (due to chemical toxicity).

In the final NRC Generic Environmental Impact Statement on the handling and storage of light water reactor fuel,[1] it is stated that

* * * To be a potential radiological hazard to the general public, radioactive materials must be released from a facility and dispersed offsite. For this to happen:

- The radioactive material must be in a dispersible form
- There must be a mechanism available for the release of such materials from the facility, and
- There must be a mechanism available for offsite dispersion of such released material.

Although the inventory of radioactive material contained in 1000 MTHM of aged spent fuel may be on the order of a billion curies or more, very little is available in a dispersible form; there is no mechanism available for the release of radioactive materials in significant quantities from facility; and the only mechanism available for offsite dispersion is atmosphere dispersion * * *.

Furthermore, NRC has conducted Safety Evaluations on many different storage systems. Those studies included evaluations of the effects of corrosion, handling accidents such as cask drops and tipovers, explosions, fires, floods, earthquakes, and severe weather conditions. As documented in each of those Safety Evaluation Reports (SER), NRC was not able to identify any design basis accident that would result in the failure of a confinement boundary. However, to provide a conservative bounding analysis of the threat to the public health and safety, the failure of the confinement barrier was postulated. As discussed in each of the SERs and again in the response to Issue 48 the consequences of this postulated failure do not result in an increased risk to the public health and safety.

In the environmental assessment for 10 CFR Part 72,[2] the accident judged the most severe was the failure of a packaged fuel element. In this analysis, the accident involves the failure of a storage system containing 1.7 MTHM. The postulated individual doses are presented in Table 1.[3]

[1] NUREG–0575 Vol. 1 sec. 4.2.2 Safety and Accident Considerations.

[2] NUREG–1092 Environmental Assessment for Part 72 ''Licensing Requirements for Independent Spent Fuel and High-Level Radioactive Waste.''

[3] NUREG–1092 Table 2.2.4–2