



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

May 17, 1978

All Licensees for Power Reactors
except those in the Systematic
Evaluation Program

In January, 1978, the NRC published NUREG-0410 entitled "NRC Program for the Resolution of Generic Issues Related to Nuclear Power Plants." As part of this program, the Task Action Plan for Category A Technical Activity No. A-36, "Control of Heavy Loads Near Spent Fuel", was approved.

As you are aware, overhead handling systems are used to lift heavy objects in the vicinity of spent fuel in both PWRs and BWRs. If a heavy object, e.g., a spent fuel shipping cask or a shielding block, were to fall or tip onto spent fuel in the storage pool or the reactor core during refueling and damage the fuel, there could be a release of radioactivity to the environment and a potential for radiation over-exposures to inplant personnel. If the dropped object is large, and the damaged fuel contained a large amount of undecayed fission products, radiation releases to the environment could exceed 10 CFR Part 100 guidelines. These concerns are currently considered in licensing reviews. We believe there is a need to systematically review NRC requirements, facility designs and technical specifications regarding the movement of heavy loads, to assess safety margins and to improve those margins where warranted.

The staff efforts currently underway commenced with a detailed evaluation of current NRC requirements and licensee procedures for the movement of heavy loads near spent fuel. Based on the results of that evaluation, assessments will be performed of the probabilities and consequences of heavy loads damaging spent fuel. A determination will then be made of the need for revising the Standard Review Plan, the Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants and the Standard Technical Specifications.

Based on a review of the adequacy of the information currently available in the docket files regarding licensee procedures and plant systems for the movement of heavy loads near spent fuel, we have determined that additional information is necessary. Accordingly, the enclosure provides a list of information required by the staff to continue the evaluation of this concern.

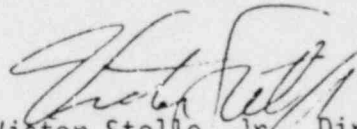
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Within 45 days of the receipt of this letter, you are requested to provide the information requested in the enclosure. Some of the information requested may have previously been provided to the NRC. If this is correct, a reference identifying when and where that information was provided will suffice or you may, at your option, provide another copy with your response. Any questions regarding this request should be forwarded to the Task Manager for this effort, James A. Long, (301) 492-8041. This request has been reviewed by the General Accounting Office and approved under Clearance No. B-180225 (R0522). This clearance expires 2/28/81.

In the interim, while these efforts are ongoing, you should review your current procedures for the movement of heavy loads over spent fuel to assure that the potential for a handling accident which could result in damage to spent fuel is kept to a minimum.

Sincerely,



Victor Stello, Jr., Director
Division of Operating Reactors
Office of Nuclear Reactor Regulation

Enclosure:
Information Request

Enclosure

INFORMATION REQUESTED

1. Provide a diagram which illustrates the physical relation between the reactor core, the fuel transfer canal, the spent fuel storage pool and the set down, receiving or storage areas for any heavy loads moved on the refueling floor.
2. Provide a list of all objects that are required to be moved over the reactor core (during refueling), or the spent fuel storage pool. For each object listed, provide its approximate weight and size, a diagram of the movement path utilized (including carrying height) and the frequency of movement.
3. What are the dimensions and weights of the spent fuel casks that are or will be used at your facility?
4. Identify any heavy load or cask drop analyses performed to date for your facility. Provide a copy of all such analyses not previously submitted to the NRC staff.
5. Identify any heavy loads that are carried over equipment required for the safe shutdown of a plant that is operating at the time the load is moved. Identify what equipment could be affected in the event of a heavy load handling accident (piping, cabling, pumps, etc.) and discuss the feasibility of such an accident affecting this equipment. Describe the basis for your conclusions.
6. If heavy loads are required to be carried over the spent fuel storage pool or fuel transfer canal at your facility, discuss the feasibility of a handling accident which could result in water leakage severe enough to uncover the spent fuel. Describe the basis for your conclusions.
7. Describe any design features of your facility which affect the potential for a heavy load handling accident involving spent fuel, e.g., utilization of a single failure-proof crane.
8. Provide copies of all procedures currently in effect at your facility for the movement of heavy loads over the reactor core during refueling, the spent fuel storage pool, or equipment required for the safe shutdown of a plant that is operating at the time the move occurs.
9. Discuss the degree to which your facility complies with the eight (8) regulatory positions delineated in Regulatory Guide 1.13 (Revision 1, December, 1975) regarding Spent Fuel Storage Facility Design Basis.

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