



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
WASHINGTON, D C 20555

September 10, 1997

The Honorable Shirley Ann Jackson  
Chairman  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555-0001

Dear Chairman Jackson:

SUBJECT: PROPOSED RULEMAKING FOR SHUTDOWN AND FUEL STORAGE POOL  
OPERATIONS AT NUCLEAR POWER PLANTS

During the 444th meeting of the Advisory Committee on Reactor Safeguards, September 3-5, 1997, we reviewed SECY-97-168, "Issuance for Public Comment of Proposed Rulemaking Package for Shutdown and Fuel Storage Pool Operation." During this review, we had the benefit of discussions with representatives of the NRC staff and the Nuclear Energy Institute. We also had the benefit of the documents referenced.

In our April 18, 1997 report to the Commission, we expressed concerns about the existing understanding of risk during shutdown operations. The NRC staff has recognized that shutdown operations may pose substantial risks. The staff sees a need for enforceable rules to ensure safety during shutdown operations. We note that, on numerous occasions in the past, the staff has found enforcement means when deficiencies in shutdown operations have been encountered. It is true, however, that there is no coherent set of requirements now available for the staff to inspect and monitor licensee activities during shutdown operations. This situation may not be relieved by a contrived interpretation of existing rules or unusual interpretations of conventional terms.

The nuclear industry has also recognized the importance of both safety and efficiency during shutdown operations. The industry has established cost-effective practices to achieve levels of safety during shutdown operations. These practices would be acceptable to the staff if it could enforce, inspect, and monitor these practices. Indeed, the proposed rule is a codification of a minimum subset of practices with aims similar to current industry practices.

The staff has been handicapped in the formulation of a rule for shutdown operations by an incomplete understanding of risk during this operating mode. Consequently, risk estimates made by the

staff in its regulatory analysis in support of the proposed rule are largely judgmental and lack the strong technical justifications that are available to estimate risks during power operations. The proposed rule would be vulnerable to a hostile or unsympathetic review.

The regulatory analysis guidelines constrain the staff from giving any credit for benefits of voluntary actions by the industry. As a result, the estimated risks of shutdown accidents for the purposes of a regulatory analysis should not be taken as an indicator of the real risks, which are likely to be considerably lower.

Many of the benefits attributed by the staff to elements of the proposed rule are of the intangible variety associated with enforceability and cannot be quantified in a meaningful way. The requirements in the proposed rule for fuel storage pool operations have benefits that are almost entirely of this intangible variety and provide no real safety benefit. We see little reason to burden an already difficult rulemaking effort with these requirements for fuel storage pool operations that provide so little safety benefit.

The staff has included requirements for fire protection in the proposed rule. There is, indeed, widespread agreement that fire protection is an essential safety issue during shutdown operations. It is not evident to us that existing fire protection rules are not applicable to shutdown operations and there is a need to augment these rules. We do recognize that the staff is committed to revise the fire protection regulations. It may not be opportune to add another element to the existing fire protection requirements only to modify these requirements in the near future.

We do believe shutdown operations of nuclear power plants deserve regulatory attention. Such regulatory attention is, in fact, overdue in light of the number of incidents of risk significance that have occurred in recent years and the heightened regulatory activity devoted to shutdown events. Coherent, risk-informed, enforceable requirements for shutdown operations that could be inspected and monitored in a consistent predictable manner would serve the interests of both the industry and the public. Seldom, however, has there been a clearer case for the cooperative development of such requirements by the industry and the staff. It is clear that it is possible to achieve a level of safety acceptable to the NRC staff at a cost palatable to the industry. Indeed, this situation may already exist absent only the elements of enforcement capability and bases for inspection and monitoring.

We find no merit in the suggestion that the Maintenance Rule (10 CFR 50.65) should be the basis for regulation of shutdown operations. We find compelling the view expressed by a representative of the Office of General Counsel that the

Maintenance Rule serves to assure that systems, components, and structures are capable of performing their safety functions. The rule cannot be construed to specify these safety functions.

We do not recommend issuance of the proposed rule on shutdown and fuel storage pool operations for public comment. We do recommend that the NRC staff explore the flexibilities of its policies and practices so it can work with industry to find ways to achieve enforceability and support for inspecting and monitoring the voluntary and apparently effective industry practices without impugning or penalizing such practices. We reiterate our belief that the staff needs to develop a more quantitative understanding of risk during all phases of low-power and shutdown operations. We further recommend that fuel storage pool operations not be included in the reexamination of the regulation of shutdown operations. Similarly, fire protection requirements for shutdown operations may be deferred to the more comprehensive reexamination of the existing fire protection regulations.

Sincerely,



R. L. Seale  
Chairman

References:

1. SECY-97-168, Memorandum dated July 30, 1997, for the Commissioners, from L. Joseph Callan, Executive Director for Operations, NRC, Subject: Issuance for Public Comment of Proposed Rulemaking Package for Shutdown and Fuel Storage Pool Operation.
2. U. S. Nuclear Regulatory Commission, "Regulatory Analysis for the Proposed Regulation § 50.67, 'Shutdown and Fuel Storage Pool Operations at Nuclear Power Plants,'" July 24, 1997.
3. U. S. Nuclear Regulatory Commission, Draft Regulatory Guide DG-1066, "Shutdown and Fuel Storage Pool Operations at Nuclear Power Plants," July 24, 1997.
4. Report dated April 18, 1997 from R. L. Seale, Chairman, ACRS, to Shirley Ann Jackson, Chairman, NRC, Subject: Establishing a Benchmark on Risk During Low-Power and Shutdown Operations.

