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

CHAIRMAN

September 12, 1990

The Honorable J. Bennett Johnston, Chairman
Subcommittee on Energy and Water Development
Committee on Appropriations
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

I am responding to the Committee's request in its Report on H.R. 5019 (S. Rep. No. 101-378, 101st Congress, 2d Sess, July 14, 1990 at 199) for a written report concerning schedules and resources for design certification reviews by the Nuclear Regulatory Commission (NRC). The Commission agrees with the Committee that standardization is an important component of the continued development of nuclear power as a viable national energy option. The Commission believes its recently completed rulemaking on standardization and licensing reform, Part 52 of Title 10 of the Code of Federal Regulations (10 CFR), provides the basis to facilitate nuclear power plant standardization through an efficient and effective licensing process.

To facilitate the certification of standard plant designs, the Commission is focusing its attention on the resolution of policy issues that are being identified as the first advanced light water reactor (ALWR) designs are being reviewed. We are also focusing attention on the 600 MWe passive designs, which are the next class of plant for which the Commission expects to receive requests for certification under 10 CFR Part 52. Although the resolution of key policy matters may affect the schedules of these first designs, the Commission believes that certification under Part 52 can be best accomplished if key policy matters are addressed early in the review process, or in the case of the passive plant designs, prior to the start of the actual design certification application reviews. As we have not fully explored a key policy issue related to ALWR design certification under Part 52, we believe it is premature to project the specific resources that are necessary to certify these designs and identify schedules. It is unlikely, however, that the schedules in the Subcommittee's report can be met without additional resources being appropriated or without adversely impacting current programs for operating plants.

The policy issue that is currently before the Commission involves the design detail necessary to constitute an essentially complete design in accordance with the design certification provisions of Part 52. The licensing process defined in 10 CFR Part 52 is significantly different from the process that the NRC used to license nuclear power plants in the past. To issue a certification under Part 52, the Commission must make a final decision on the safety of a design without the benefit of detailed as-built information. Because a certified design can be used as part of the basis for the issuance of a

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combined construction permit and operating license under 10 CFR Part 52, the Commission must ensure that all issues affecting the public health and safety are adequately resolved prior to certification. Furthermore, the Commission believes that there is a direct relationship between safety and design standardization and that requiring a high level of design detail at the design certification stage will enhance safety by minimizing diversity among individual plants. Among other things, excessive diversity among a class of plants can increase the complexity of maintenance, exacerbate the potential for human error, and affect the availability of spare components.

To resolve this issue, the Commission has met with both the NRC staff and representatives of the nuclear industry to obtain recommendations for establishing an appropriate level of design detail. The Commission published in the Federal Register a request for comment on SECY 90-241, "Level of Detail Required for Design Certification Under Part 52" (enclosed). SECY 90-241, prepared by the NRC staff, identifies various levels of design detail that could be required, and the advantages and disadvantages of each. The Department of Energy and segments of the nuclear industry have provided comments on the paper, and these comments are currently being considered by the Commission. The Commission also understands that the industry's Nuclear Power Oversight Committee is developing a plan to promote standardization and that this plan will be submitted to the Commission in October of 1990. After we consider all of the information relevant to this issue, we expect to reach a decision on the required level of design detail this fall. This decision may require the vendors to perform more work to complete their applications for design certification and, therefore, could affect schedules. After the Commission makes a decision on this issue, the NRC staff will reevaluate the schedules and resources for design certification activities and will forward the schedules and resource information to the Committee.

Finally, the Senate Appropriations Committee Report on H.R. 5019, includes a statement indicating that design certification is required for a combined license. I would like to point out that certification is not a prerequisite to a combined license; custom plant reviews that do not rely on a design certification are also permitted under 10 CFR Part 52. However, the nuclear industry has informed the Commission that, as a practical matter, they do not plan on ordering new nuclear capacity until certified designs are available.

Sincerely,

Kenneth M. Carr

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Enclosure:
As stated

cc: The Honorable Mark O. Hatfield