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

January 12, 1981

Honorable John F. Ahearne
Chairman
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

SUBJECT: REQUIREMENTS FOR NEAR-TERM CONSTRUCTION PERMIT APPLICATIONS

Dear Dr. Ahearne:

During its 249th meeting, January 8-10, 1981, the ACRS again reviewed the status of the requirements for near-term construction permits (NTCPs). The Committee reported to you previously on this subject in a letter dated May 6, 1980. In the present review we had the benefit of a Subcommittee meeting on January 6, 1981 and of discussions with members of the NRC Staff and with representatives of applicants for NTCPs and Offshore Power Systems, the applicant for a manufacturing license (ML).

In our letter of May 6, 1980 we noted that the utility representatives had advised the Committee that there was a need for resolution of several policy issues which related to how and whether construction permit applications would be processed in the near term. The principal policy issues identified dealt with siting, degraded core conditions, reliability and risk assessment, and emergency planning. In May 1980, the utilities expressed a desire to have the chance to propose an acceptable interim approach to resolution of these issues. However, the utilities did not present any common proposal for dealing with this matter during the next several months.

The NRC Staff did develop a proposed policy and on October 2, 1980 the NRC published for comment in the Federal Register "Proposed Licensing Requirements for Pending Construction Permit and Manufacturing License Applications." The Federal Register notice identified the following three options as having been considered by the NRC Staff.

1. Resume licensing using the pre-TMI CP requirements augmented by the applicable requirements identified in the TMI Action Plan, NUREG-0660. In effect, this treats the pending CP and ML applications as if they were the last of the present generation of nuclear power plants.

2. Take no further action on the pending CP and ML applications until the rulemaking actions described in the Action Plan have been completed. This would, in effect, treat the pending applications as the first of a new generation of nuclear power plants.

3. Resume licensing using the pre-TMI CP and ML requirements augmented by the applicable requirements identified in the TMI Action Plan, NUREG-0660, and require certain additional measures or commitments in related areas, e.g., those that would be the subject of rulemaking.

The NRC Staff favored Option 3 as a suitable compromise and identified their current positions for NTCP and ML plants with regard to siting, degraded core rulemaking, reliability engineering and emergency preparedness.

The comments from representatives of the nuclear industry on the proposed licensing requirements generally opposed the Staff's preference for Option 3, and favored Option 1. In addition to opposing additional requirements for NTCP plants, the industry representatives argued that the Staff's position concerning degraded core rulemaking was open-ended and would lead to protracted delays and case-by-case adjudication of the matter at ASLB hearings. Industry representatives provided a varied set of comments concerning reliability engineering and argued against adoption of the NRC Staff's position on siting. Offshore Power Systems favored Option 1 but stated that they believed they could live with Option 3.

During the 249th ACRS meeting, the NRC Staff advised the Committee that it now favored adoption of a revised Option 3. The new NRC Staff position was described as follows:

Emergency Preparedness

The Commission has adopted a rule which addresses this subject. The NTCP Applicants will be required to comply with this rule.

Siting

In view of the demographic and hydrological characteristics of the proposed sites, no additional measures with regard to siting would be required in connection with these construction permit applications.

Reliability Engineering

Each applicant would be required to submit a site/plant probabilistic risk assessment as part of the application for an operating license.

Degraded Core Rulemaking

In order to minimize foreclosure of plant modifications in the structural design area, at least those applicants whose designs incorporate a relatively low-design-pressure reactor containment would have to strengthen the containment structure against internal pressure. In addition, all applicants would be required to commit to making provisions for an approximately three foot diameter, or equivalent, containment penetration which could be used in conjunction with a filtered venting design feature, should the latter be judged to be needed.

We agree with the NRC Staff's currently proposed approach on siting. We also agree with the current NRC Staff position on reliability engineering. During the discussion with us, the NRC Staff indicated that, although they did not propose making a formal requirement to that effect, one intent of the proposed position on reliability engineering was to strongly encourage each applicant

to perform the relevant portions of the probabilistic assessment early enough that the results could be factored into a safety-related reliability optimization of the design. We strongly support this point of view and recommend that each applicant give high priority to such efforts.

The NRC Staff's position on the degree of containment strengthening that should be required had not yet been definitively formulated by the time the 249th ACRS meeting was held. Since the NRC Staff's position was new, industry representatives did not have time to review the position and provide comments.

Furthermore, we were advised by representatives of the Houston Lighting and Power Company, the Applicant for the Allens Creek Nuclear Generating Station, that they had authorized a study of possible accident prevention and mitigation features for their plant in order to ascertain the advantages, disadvantages, and practicality of these features. The results of this study are to be presented to Houston Lighting and Power in mid-January and representatives of the company requested an opportunity to meet with the ACRS in early February to discuss these results.

We agree with the general approach outlined by Harold Denton at the 249th ACRS meeting concerning provisions for degraded core rulemaking on NTCP plants. However, we believe that the NRC Staff needs to define its proposal more precisely. We believe that both the NRC Staff and the ACRS should have the benefit of further discussions with the NTCP and ML applicants. Hence, we recommend that the Nuclear Regulatory Commission defer any final action on the overall matter at least until after the 250th ACRS meeting on February 5-7, 1981 during which this matter is scheduled for discussion.

Sincerely,

J. Carson Mark

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Chairman