UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON D.C. 20545

0710750061

AUG 16 1974

Mr. John E. Ward, Chairman
Committee on Reactor Licensing and Safety
Atomic Industrial Forum, Inc.
1747 Pennsylvania Avenue
Suite 1150
Washington, D.C. 20006

Dear Mr. Ward:

Thank you for your August 13 letter providing additional Forum comments on replication and our statement on the "Policy and Procedures for the Replication of Custom Plant Designs" which has just been published. I am enclosing a copy of this paper for your information. As you can see, the concept of replication of portions of a particular plant design is not precluded by this policy statement. In fact, it is our intention to meet with you and your committee to discuss this consideration in detail. Walter Haass, our Special Assistant for Standardization, will be in touch with you to arrange this meeting.

Sincerely,

Edson G. Case
Acting Director of Licensing

Enclosure:
As stated

POLICY AND PROCEDURES FOR THE REPLICATION OF CUSTOM PLANT DESIGNS

Introduction

Replication of plant designs previously approved by the Regulatory staff is considered to be a transitional step towards the standardization of nuclear power plants. This licensing approach involves submission of an application by a utility for license for a nuclear power plant utilizing a plant design that was previously submitted by the same utility or by another utility as part of a construction permit application. Its ultimate objective would be the duplication of plants through the detailed design and construction phases. Replication was discussed in the Regulatory Staff Study which accompanied and formed the basis for the Commission's policy statement on standardization of March 5, 1973. This staff study stated that these kinds of license applications could be given an accelerated review if the plant designs were duplicates of those that had received construction permits subsequent to June 30, 1974.

In implementing this approach to standardization, as in the other approaches, the Regulatory staff will establish specific requirements to be met to assure that acceptable levels of safety and environmental protection are maintained. The replicate plant design must satisfy the site-related design criteria required for the new site. In general, only relatively recent plant designs are likely candidates for replication.

The potential advantages that accrue to a utility applicant who chooses this licensing route are substantial savings in engineering manpower and in the overall design and construction schedule, and a reduction in the potential for construction delays by allowing earlier procurement of components and material, and by the adoption of previously used procedures, drawings and other construction documentation. In addition, a decrease in the period of time necessary for the staff safety review will result.

The Regulatory staff expects that this approach to standardization will serve a number of utilities primarily during the transition phase from custom plant applications to applications that use reference system designs. It is therefore expected to have its greatest utilization over the next two to four years. The staff does not intend that replication supplant, detract from, or in any way hinder the progress of, the reference system approach to standardization. The reference system standardization concept is expected to be the dominant licensing route when a sufficient library of reference system designs has been accumulated.

Replication Policy and Procedure

The replication of custom plant designs is encouraged as another method to standardize nuclear power plants. Replication is defined for regulatory purposes as the duplication of a plant preliminary design as it exists at the completion of the Regulatory staff's technical review at the construction permit stage of licensing. As used in subsequent

discussions, the plant being replicated (i.e., the plant for which the staff review is completed) is called the "base plant", and the new plant which uses the base plant design is called the "replicate plant".

Policy

The following policies are established for the licensing of nuclear power plants that are replicates of custom plant designs:

A. The base plant selected by the utility for replication must have received the original issue of its staff Safety Evaluation Report (SER) subsequent to January 1, 1974.

B. All plants meeting requirement "A" above are considered as candidates for replication.

C. The duration of availability (i.e., period of time during which a base plant design may be used in a replicate plant application) for use as a base plant is normally 2 1/2 years, commencing from the date of the original SER issuance for the base plant.

D. With regard to regulations and Regulatory Guides:

1. Codes and standards requirements shall be satisfied by the replicate plant, as stated in 10 CFR Part 50.55a.

2. Regulatory Guides, adopted by the base plant as of the date of its original SER issuance, are mandatory for the replicate plant. Those applicable Regulatory guides issued for use subsequent to that date should be considered for incorporation

in the replicate plant. The staff will discuss these with the applicant on a case-by-case basis.

E. Items considered by the staff to be open in the SER for the base plant or in the ACRS letter, or specified by the staff to be open as a result of the "qualification review" of the base plant (See item B below under Procedure) will be included as open items on the replicate plant application.

F. Those portions of the base plant design that were determined to be acceptable and that are not affected by the open items identified during the qualification review of the base plant, will not be re-reviewed on the replicate plant application.

G. The replicate plant application must demonstrate compatibility of the replicate plant with the site-related design parameters of the proposed site.

H. The staff views the base plant to be acceptable as approved, unless significant new safety issues arise. No further requirements will be imposed on the base plant solely as a result of staff consideration of the replicate plant application.

Procedure

The following procedure is established for the submittal and processing of replicate plant applications:

A. A utility applicant would select one or more candidate base plants that meet the applicable requirements listed above, and

notify the Regulatory staff of its intent to submit a replicate plant application by letter at least 12 months in advance of the tendering date, unless a previously approved designated site is used in which event six month's advance notice is adequate. This correspondence will be placed in the Public Document Room.

B. The Regulatnry staff would perform an independent "qualification review" of the proposed base plant docket(s) to determine the acceptability of the base plant(s) for replication, and to identify items considered to be open in the original SER and ACRS letter report for the base plant(s) and other items that have arisen subsequent to the issuance of those documents including those resulting from the public hearing process for the base plant.

C. At the conclusion of the qualification review, a meeting would be held between the staff and applicant to establish guidance for the preparation of the replicate plant application. The results of the staff's qualification review would be provided to the utility applicant in writing no later then 3 months following the notification of intent and placed in the Public Document Room.

D. The replicate plant application would be tendered and include the following:

1. A reprint of the base plant PSAR addressing those portions of the plant design to be replicated, as amended up to the date of issuance of the base plant construction permit.
2. The necessary PSAR information that concerns the remaining site-specific and utility-specific requirements as identified in "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants", and that addresses the open items identified during the qualification review. This information should be submitted in a form easily distinguishable from the reprinted information discussed in item 1 above.
3. The other requirements for license applications.

E. All portions of the tendered application, except those replicated portions determined to be acceptable during the qualification review, would be subjected to a completeness review for acceptability, and docketed when judged to be sufficiently complete for the staff technical review to begin.

F. The review of the replicate plant application by the staff, including anti-trust, financial, and environmental aspects, would be performed in a manner similar to that for other license applications. However, those portions of the design, previously determined to be acceptable and not effected by the open items identified during the qualification review, would not be re-reviewed. The technical review would include consideration of any new significant safety issues identified subsequent to the qualification review.