NOTATION VOTE

RESPONSE SHEET

TO: SAMUEL J. CHILK, SECRETARY OF THE COMMISSION

FROM: CHAIRMAN CARR

SUBJECT: SECY-90-377 - REQUIREMENTS FOR DESIGN CERTIFICATION UNDER 10 CFR PART 52

APPROVED X w/comment DISAPPROVED _____ ABSTAIN _____

NOT PARTICIPATING _____ REQUEST DISCUSSION _____

COMMENTS: See attached comments.

Kenneth M. Carr
SIGNATURE

1.28.91
DATE

RELEASE VOTE / /

WITHHOLD VOTE / /

ENTERED ON "AS" YES X NO ___

CHAIRMAN CARR'S COMMENTS ON SECY-90-377

Under 10 CFR 52.47, the application must contain a level of design information that enables the Commission to reach a final conclusion on all safety questions associated with the design before the certification is granted; therefore, I agree with the staff's proposed approach that the level of detail needed for design certification should be consistent with a system's relationship to safety. I approve of staff's development of regulatory guidance, in parallel with the ABWR review, to describe the contents of an application for design certification and COL including specific engineering products expected to be developed, the process for making changes to the design, and formulation of an ITAAC program. The staff should also update the existing SRP in parallel with the design review.

Development of the regulatory guidance and updating of the SRP will provide for a systematic, integrated, and methodical examination of a design to ensure final resolution of all safety questions, including those that arise from interactions within and among systems. An approach strictly based on questions and answers by individual reviewers may fail to identify all the safety issues by overlooking system dependencies or interferences in the design. As the staff has advised the Commission, a systematic process is also necessary to ensure a scope and depth of design sufficient to reach the final resolution of safety questions which may not be possible in a question and answer process. In preparing the regulatory guide and conducting the ABWR review, the staff should develop a preliminary list of the specific engineering products they believe should be developed and available to reach a final conclusion on all safety questions for design certification, seeking input from interested parties. The staff should clearly understand that ITAAC are to provide reasonable assurance that a plant which references a design is built and will operate in accordance with the design certification, and thus the staff should not leave open any safety questions at design certification with the expectation that ITAAC could be used to close them. Documentation in a Regulatory Guide of the Commission's determination of the information that is needed for a safety decision based on the discussions surrounding staff's lead design review is consistent with the language of 10 CFR 52.47(a)(2).

In the past, the design was completed as the plant was constructed; this process resulted in changes to what would correspond to tier 1 and tier 2 information. Now, however, the development of a design by the applicant and the staff's review and audit of the design must be adequate to support the agency's final safety findings up front, prior to granting of the design certification. Therefore, as prescribed by 10 CFR 52.47 the applicant for design certification must develop enough design detail to ensure all safety issues are identified and will be finally resolved at design certification. Having a sufficiently deep and broad design at the design certification stage to

identify all the safety issues is important for evolutionary LWRs and will be even more important when the staff begins its review of the passive and non-LWR designs, designs about which we know less.

In issuing 10 CFR 52.47(a)(2), the Commission intended that for all systems, structures, and components which can affect safe operation of the plant, the design information contained in the application would reflect a design which was complete, except to the extent that further adjustment to the design within established design envelopes would be necessary -- during what the staff has referred to as the design reconciliation process -- in order to accommodate variations in actual, as-procured hardware characteristics.

Therefore, I believe the information submitted in an application should at least: (1) encompass a depth of detail no less than that in an FSAR at the operating stage for a recently licensed plant except for site-specific and as-built information, (2) be sufficient to allow staff to evaluate the resolution of severe accident issues in the design and the incorporation of experience from operating events in current designs which we want to prevent in the future, and (3) provide a sufficient level of detail to ascertain how the risk insights from the design-specific PRA are addressed in the design. The additional supporting documentation and analyses developed in accordance with 10 CFR 52.47 will be reviewed as needed to reach a final conclusion on all safety questions in the application review process. The Commission's safety determination could require that final design information normally contained in certain procurement and construction and installation specification be reviewed as well. The SRP should be revised to be consistent with this.

I agree with the staff that the process provides issue finality on all information provided in the application that is reviewed and approved in the design certification rulemaking. Information obtained during the review process that forms the basis for a safety decision will be formally docketed as part of the application and will become part of the certified design. Only this information will have regulatory significance. I agree with the proposed two tiered design certification rule structure. To ensure continuity and consistency in the staff's safety review efforts, decisions on what information should reside in each tier should be made in parallel with the staff's review so that the staff's position on this matter is available at the time of FDA issuance. Generic conclusions from this process should be reflected in regulatory guidance.

Although I believe changes to a design reviewed and approved by the staff should be minimized, I recognize that a certain amount of flexibility will be needed to finalize procurement information and construct the facility; therefore, I have no objection to a

change process similar to 10 CFR 50.59 for making changes to tier 2 information between COL issuance and authorization for operation, recognizing of course, that such changes open the possibility for challenge in a hearing. The staff should ensure that this change process requires preservation of the severe accident, human factors, and operating experience insights that are part of the certified design, in addition to the more traditional "unreviewed safety question" which today focuses on design basis accidents only. The staff should also consider whether reporting of changes should be at some interval shorter than a year and whether more information should be reported than is currently required under 10 CFR 50.59. I am not persuaded of the need for an additional change process between design certification and COL beyond what is provided by Part 52.

I believe that development of regulatory guidance on the formulation of the ITAAC program is an area that will require careful thought by both the staff and the industry. ITAAC are confirmatory, describing how to demonstrate compliance with a design for which the Commission has already reached final conclusions on all safety issues. I believe the more detailed the design is at design certification, the more specific and objective the ITAAC can be to confirm implementation of the design. The more specific and objective the ITAAC, the less likely it is that there will be a basis for someone to argue at the preoperational stage that safety issues exist which should be resolved in a hearing.

During the life of a certified design there will likely be changes in technology as well as in engineering codes and standards that should be considered for modifications to that design in accord with 10 CFR 52.63. During the time that the regulatory guide is being developed, the staff should prepare recommendations on how to deal with this information and present them to the Commission for approval.

In a related matter, in finalizing the EPRI Requirements Document, the staff should review the document against the SRP, and also review it to ensure that it is sufficient to allow the staff to evaluate the resolution of severe accident issues and the incorporation of experience from operating events in current designs.

The staff should provide the Commission with realistic schedules for completion of the design certification reviews, the EPRI evolutionary and passive document reviews, and the revised regulatory guidance and SRP.

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