



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

May 17, 1983

Honorable Nunzio J. Palladino
Chairman
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Dr. Palladino:

SUBJECT: ACRS REPORT ON THE SYSTEMATIC EVALUATION PROGRAM REVIEW OF THE
HADDAM NECK PLANT

During its 277th meeting, May 12-14, 1983, the Advisory Committee on Reactor Safeguards reviewed the results of Phase II of the Systematic Evaluation Program (SEP) as it has been applied to the Haddam Neck Plant. These matters were discussed also during a Subcommittee meeting in Washington, D.C. on April 7, 1983. During our review, we had the benefit of discussions with representatives of the Connecticut Yankee Atomic Power Company (Licensee) and the NRC Staff. We also had the benefit of the documents referenced.

The Haddam Neck Plant is the second plant in Group 2 of the SEP to be reviewed; our review of the Yankee Plant was reported in our letter dated April 19, 1983. The Haddam Neck Plant has been in commercial operation since 1968 and is the fourth oldest licensed power plant still operating. It has produced more kilowatt-hours of electricity than any other nuclear power plant in the world. The Haddam Neck Plant, like the Yankee Plant, differs from most of the other plants in the SEP in that it received a Full-Term Operating License in 1974. At an electrical capacity of 575 MWe, it is the largest plant in Group 2.

In our report dated May 11, 1982 on the SEP evaluation of the Palisades Plant, we commented on the objectives of the SEP and the extent to which they had been achieved. Our review of the SEP in relation to the Haddam Neck Plant has led to no changes in our previous findings regarding the extent to which the objectives of the SEP have been achieved and the manner in which the NRC Staff has conducted its review and assessment.

Of the 137 topics to be addressed in Phase II of the SEP, 24 were not applicable to the Haddam Neck Plant and 23 were deleted because they were being reviewed generically under either the Unresolved Safety Issues Program or the Three Mile Island Action Plan. Of the 90 topics addressed in the NRC Staff's review, 46 were found to meet current NRC criteria or to be acceptable on another defined basis. We have reviewed the assessments and conclusions of the NRC Staff relating to these topics and have found them appropriate.

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The 44 remaining topics involved 79 issues relating to areas in which the Haddam Neck Plant did not meet current criteria. These issues were addressed by the Integrated Plant Safety Assessment and various resolutions have been proposed.

For 17 of the 79 issues included in the Integrated Assessment, the NRC Staff concluded that no backfit is required. We concur.

For 19 of the remaining issues, changes to the Technical Specifications or procedures were recommended by the NRC Staff and agreed to by the Licensee.

For the 10 remaining issues for which the assessment has been completed, the Licensee has proposed hardware backfits for their resolution, and the NRC Staff has found these proposals acceptable.

As has been the case for the other plants in the SEP, the Integrated Assessment has not been completed for a number of the issues for which the Licensee has agreed to provide the results of studies, analyses, and evaluations needed by the NRC Staff for its assessments and decisions. All of these issues are of such a nature that hardware backfits may be required for their resolution. The resolution of these issues will be addressed by the NRC Staff in a supplemental report.

Many of the issues still being evaluated by the Licensee relate to the effects of extreme environmental phenomena such as earthquakes, floods, and tornadoes, since the Haddam Neck Plant was not designed to resist these phenomena at the levels that would be required by current criteria.

Use was made of a limited Probabilistic Risk Assessment (PRA) in connection with the NRC Staff's evaluations. Since a plant-specific PRA was not available for the Haddam Neck Plant, the techniques used were similar to those used in similar circumstances for other plants in the SEP. As in those other cases, we believe that the NRC Staff's use of PRA was appropriate and that suitable use was made of the results.

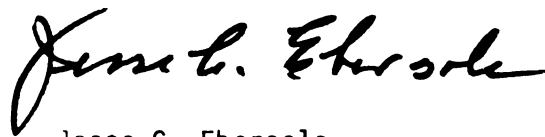
Our conclusions regarding the SEP review of the Haddam Neck Plant are as follows:

1. The SEP has been conducted in such a manner that the stated objectives have been achieved for the most part for the Haddam Neck Plant.
2. The actions taken thus far by the NRC Staff in its SEP assessment of the Haddam Neck Plant are acceptable.

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3. Several issues relating to protection against extreme external events remain to be resolved. We have been informed of the bases for the resolution of these issues but have not yet reviewed them in detail. At this time, we are satisfied with the SEP review of the Haddam Neck Plant. We expect to review further the design bases for protection against external events, and we wish to review the resolution of the remaining issues when the supplemental report is available.

Sincerely,

Jesse C. Ebersole
Acting ChairmanReferences:

1. U. S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, "Integrated Plant Safety Assessment Systematic Evaluation Program, Haddam Neck Plant," Draft Report, NUREG-0826, dated March 1983.
2. U. S. Nuclear Regulatory Commission, Safety Evaluation Reports, Haddam Neck Plant, Volumes 1-3, received March 18, 1983.